Actiontec®
Creative Solutions for the Digital Life

ScreenBeam Pro Wireless Display Receiver

- Business Edition

Model#: SBWD100B

User Manual

V0.71 (Draft)

Revision History

Version	Revision Date	Revised by	Revision Note

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Part I. Getting Started

Thank you for your purchase of Actiontec's ScreenBeam Pro Wireless Display Receiver Business Edition (hereinafter refer to as "ScreenBeam Pro").
The Receiver lets you wirelessly stream what's on your Intel WiDi or Miracast™ compatible device to your HDTV, including movies, videos, photos, music, and more. The Receiver frees your eyes from a tiny screen.
The Receiver boasts some great features, including fast setup, enhanced security and IT manageability, Managed Meetings (Gen 5 WiDi), smooth video playback, full 1080p HD support, ultra-low delay, Windows 8.1 optimization, versatile compatibility, low power consumption, and more.
With ScreenBeam Pro, it's easy to make presentations and impromptu meetings in the conference room a breeze, as users don't need to scramble to find the right HDMI or VGA cable in order to share a spreadsheet or presentation on the big screen. And the Managed Meetings feature allows meeting participants to interactively share their own screens on the big screen.

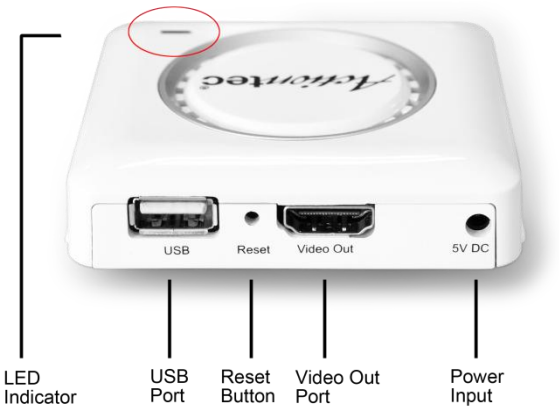
This user manual will take you through the procedures needed to install, connect to, operate, configure, and upgrade the Receiver, and also describe a few different possible scenarios about locating faults.

1.1. Contents in the Box

Contents in the Receiver's package are listed below:

- ScreenBeam Pro Wireless Display Receiver (SBWD100B) - Business Edition (1)
- HDMI Cable (1)
- HDMI-to-VGA Adapter & 3.5mm audio cable (1)
- AC Power Adapter (1)
- Installation Guide

1.2. Meeting ScreenBeam Pro



- Reset Button, for resetting the device to default
- Video Out Port (HDMI), connecting to HDTV/projector for video and audio output
- Power Input Port, for powering the device
- LED Indicator, indicating power supply status
- USB Port, for firmware upgrade

1.3. System Requirements

System requirements for the receiver are shown below:

1.3.1. Receiver

To install the Receiver, you must have the following items:

- A display device with one HDMI port (Type A) or one VGA port
- An available power outlet

1.3.2. Compatible Devices

The Receiver is compatible with the following devices:

- Tablets, Ultrabook™ devices, and 2-in-1 devices with the latest Intel® Core™ vPro™ processors and Intel WiDi 5 (or higher)
- Tablets, Laptops, and Notebooks with Intel WiDi 4 (or higher)
- Wi-Fi Certified Miracast™ smartphones and tablets with Windows 8.1+ or Android 4.2+

1.3.3. Best Known Configurations (BKCs) for Intel Pro WiDi

For optimal experience with Intel Pro WiDi, we recommend to update your system drivers and Intel WiDi application to the latest versions provided by Intel. You can find the latest version by visiting Intel's wireless display support website
http://www.intel.com/p/en_US/support/highlights/wireless/wireless-display/

- **Graphic Driver:** 15.36.14.4080
- **Wi-Fi Driver:** 17.14.0
- **Intel WiDi Application:** 5.1.x

Part II. Installing the Receiver

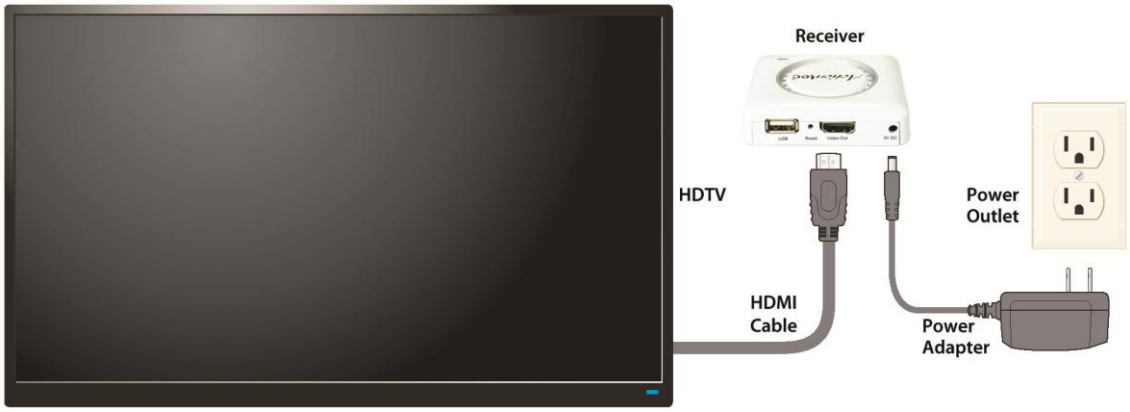
This chapter explains how to connect the Receiver to an HDTV. Make sure you have all the contents from the Receiver's package available before starting.

2.1. Connecting the Receiver to an HDTV

It is quite easy and fast to set up the Receiver. You can complete the connection in just one minute.

To connect the Receiver to an HDTV:

1. Get the **Receiver**, **AC power adapter**, and **HDMI cable** from the Receiver's package.
2. Plug one end of the supplied HDMI cable into the HDMI port (Video Out) on the Receiver, and the other end into an available HDMI port on the HDTV.
3. Plug the connector of the power cord to the Receiver's power input port labeled "**Power**", and plug the power adapter to a power outlet.
   When Steps 1, 2, and 3 are complete, the hardware should be connected as shown in the figure below:



4. Turn on the HDTV and set it to display the input from the correct HDMI port (the one you have plugged into in Step 2).
5. Verify that the "**Ready to connect**" screen appears on the HDTV.

The Receiver is connected to the HDTV, and it is ready for use.

Note: Connections to other display devices are similar.

Part III. Setting Up for the First Time

This chapter explains how to connect ScreenBeam Pro for the first time to the source device. There are three source device options: Intel WiDi (Intel Pro WiDi), Windows 8.1, and Miracast™.

- For Windows 8.1 devices, please proceed to Section "**Connecting via Windows 8.1**";
- For Windows 7/8 devices (Gen 4 WiDi), please proceed to Section "**Connecting via Intel® WiDi App (Gen 4)**";
- For Intel Pro WiDi (Gen 5) devices, please proceed to Section "**Connecting via Intel® Pro WiDi App (Gen 5)**";
- For Android devices, please proceed to Section "**Connecting via Intel®** Pro WiDi App (Gen 5)

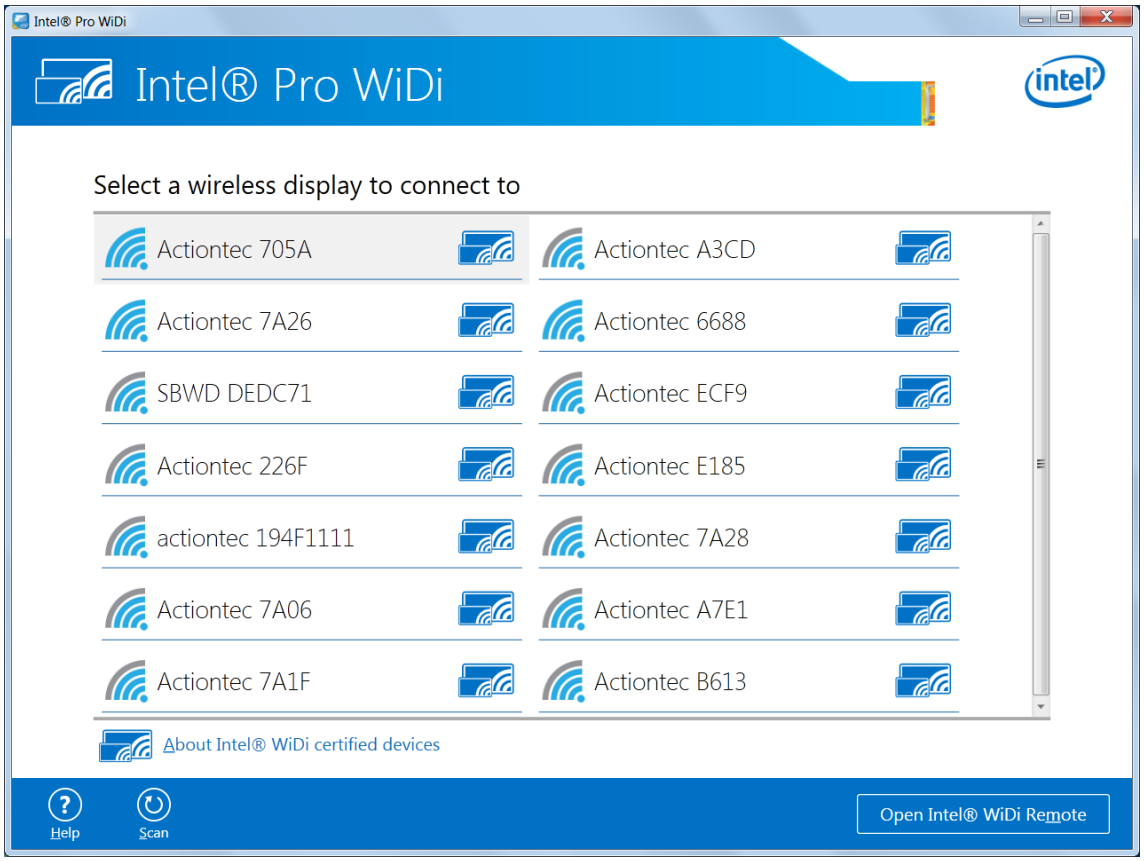
ScreenBeam Pro supports Managed Meetings, which is only available with Intel® Pro WiDi. To use this feature, ScreenBeam Pro must enable the AGO feature. In this case, Intel WiDi (4.x.x.x) can't connect to ScreenBeam Pro.

Note:

- To install Intel® Pro WiDi, you need a compatible Haswell system (Intel® Core™ vPro™ processor).
- For details about AGO, refer to Section 5.3.16. **Setting up Autonomous Group Owner (AGO)**.

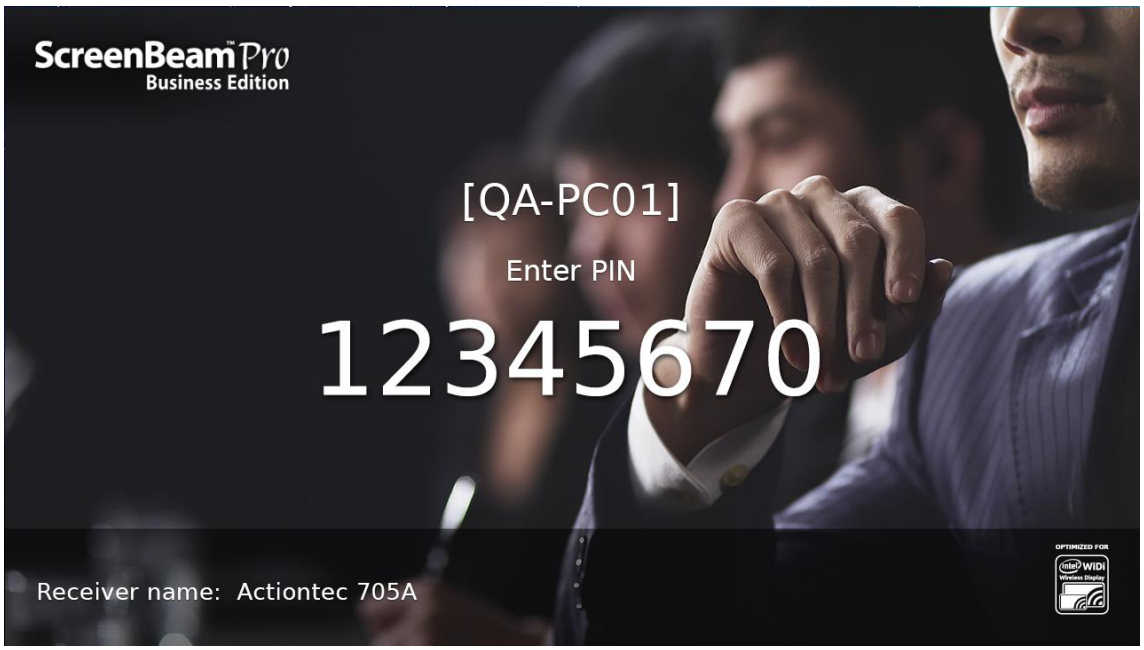
Follow the procedure below to connect your device to ScreenBeam Pro:

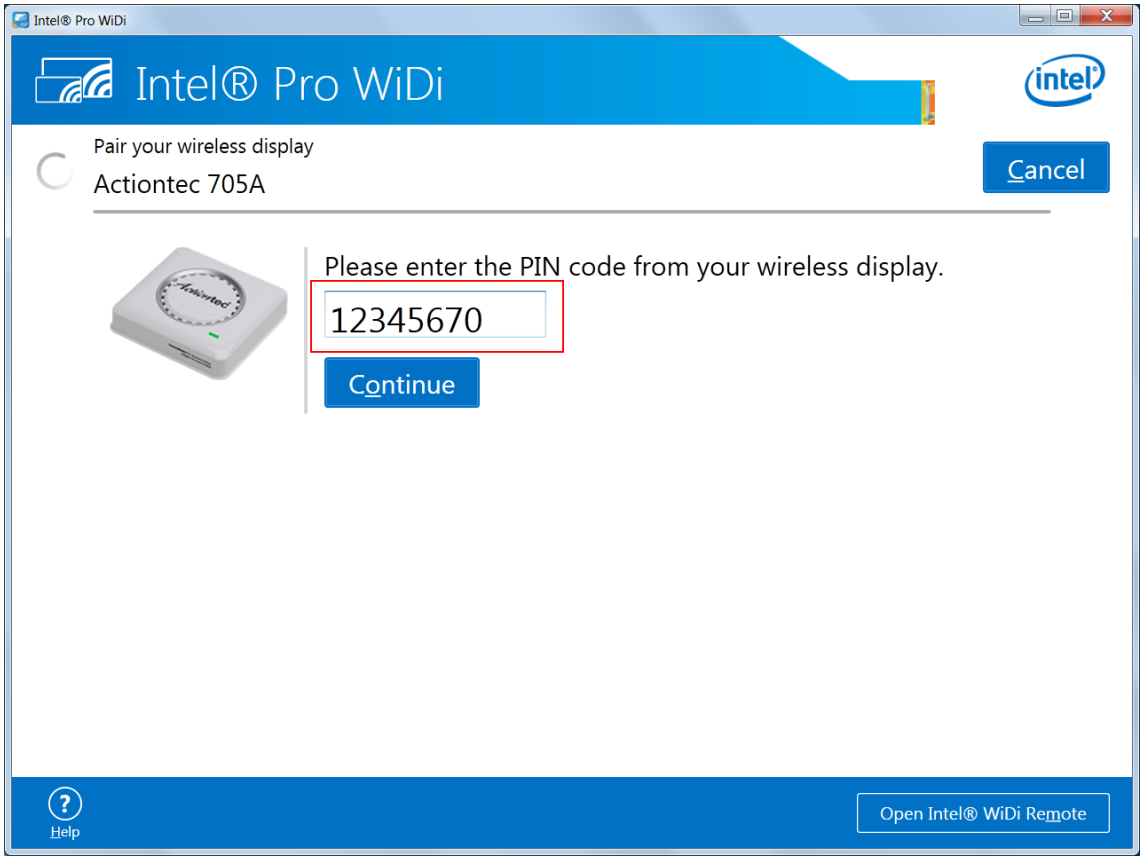
1. Launch the **Intel® Pro WiDi** application on the device.
2. The **Intel® Pro WiDi** application scans for available receivers automatically. Select your receiver to start the connection procedure.



Note: If your receiver is not found, you can click the **Scan** button to scan again.

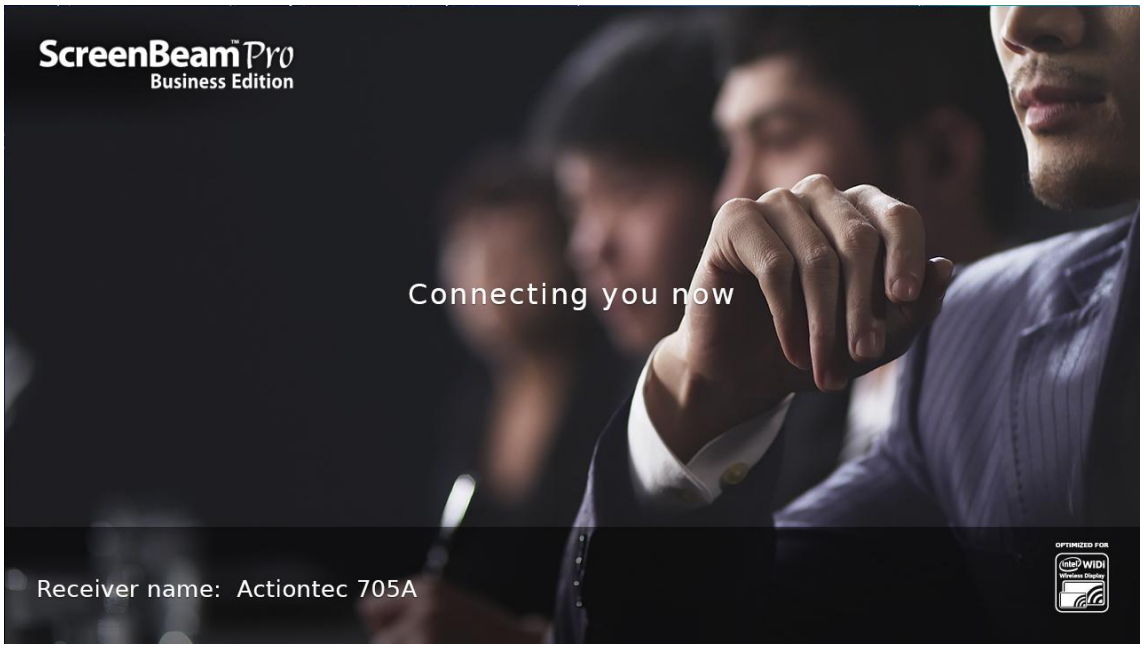
3. A PIN entry box is displayed on the screen of the WiDi device. And you can see a PIN code and the host name (**QA-PC01** in this example) of the connecting device displayed on the HDTV. Type the PIN in the PIN entry box on the WiDi device, and then click **Continue**.





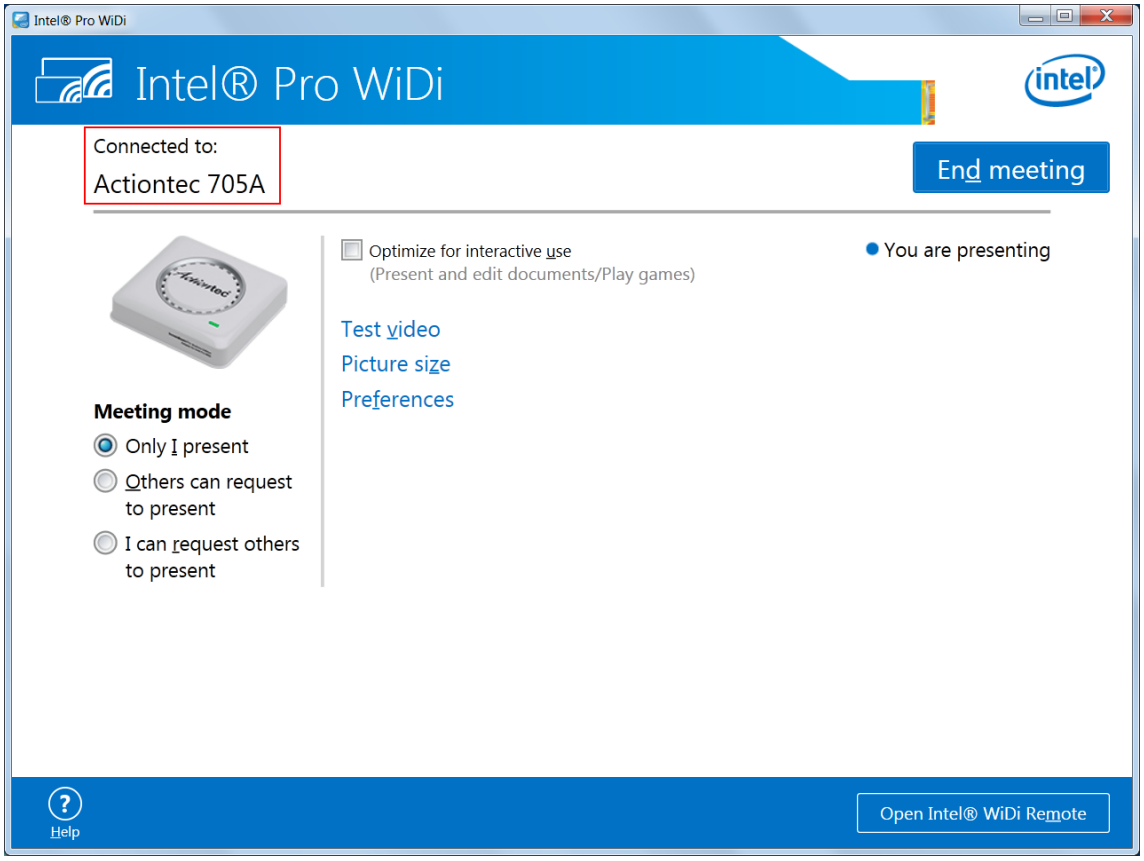
Note: You should obtain the security PIN from your network administrator if no PIN is displayed on the connected display device.

4. The HDTV displays messages to show the status of the connection.



5. Your device will connect to ScreenBeam Pro, and the device's screen is displayed on

the HDTV.

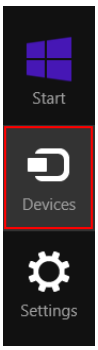


- Connecting via Miracast™".

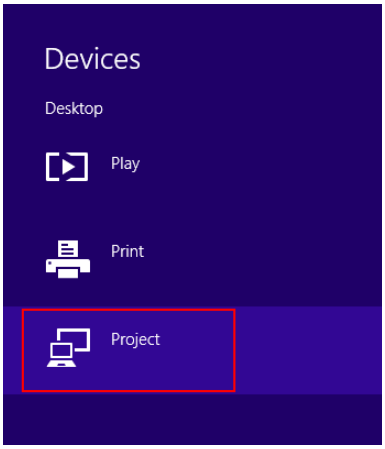
3.1. Connecting via Windows 8.1

This section explains how to connect a device running Windows 8.1 to ScreenBeam Pro.

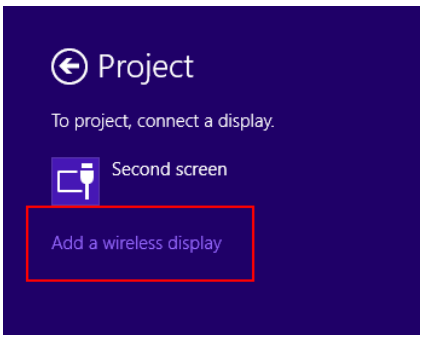
1. From the Windows desktop, go to the **Charms** menu and select **Devices** to open the **Devices** menu. You can also use the shortcut keys, **Windows** logo + **K**.



2. From the **Devices** menu, click **Project**.

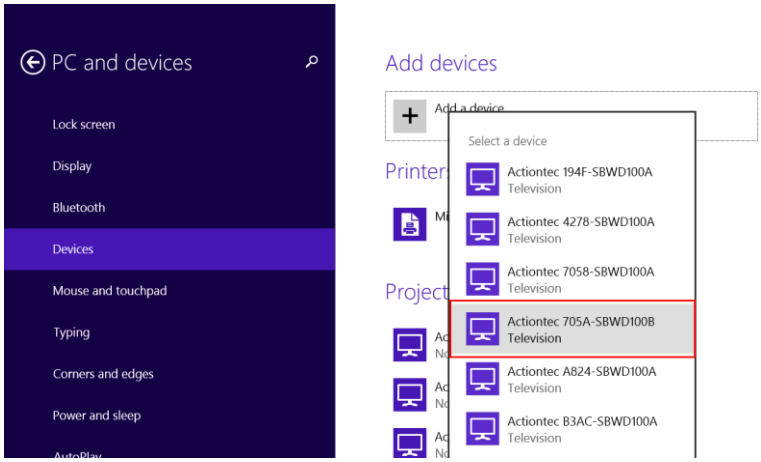


3. From the **Project** menu, select **Add a wireless display**. Windows will search for available devices.

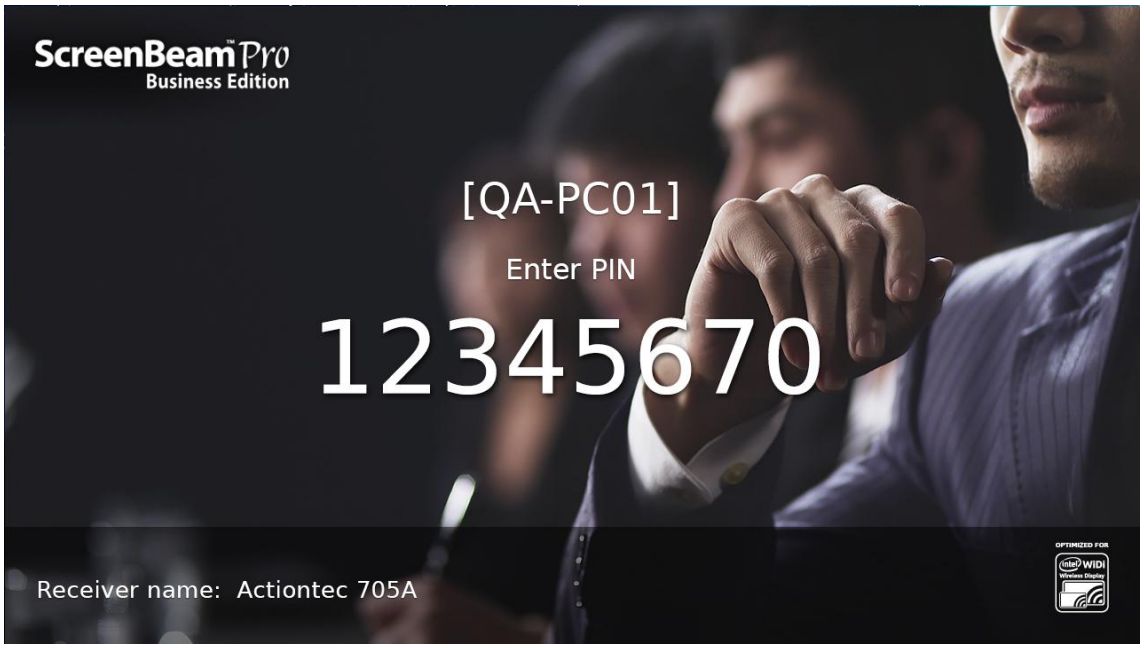


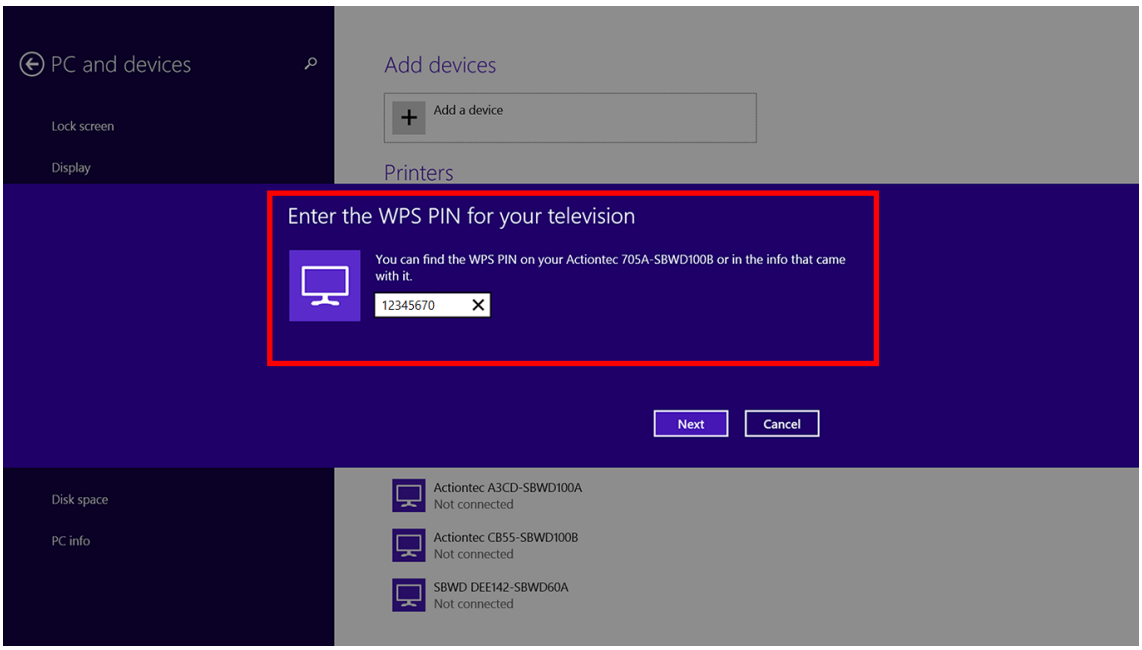
Note: If you are running Windows 8.1 and the screens above do not appear, go to http://www.actiontec.com/widi81 for the latest software update. Or, you can update your Windows 8.1 via the **Windows Update** application.

4. Select your receiver from the device list.



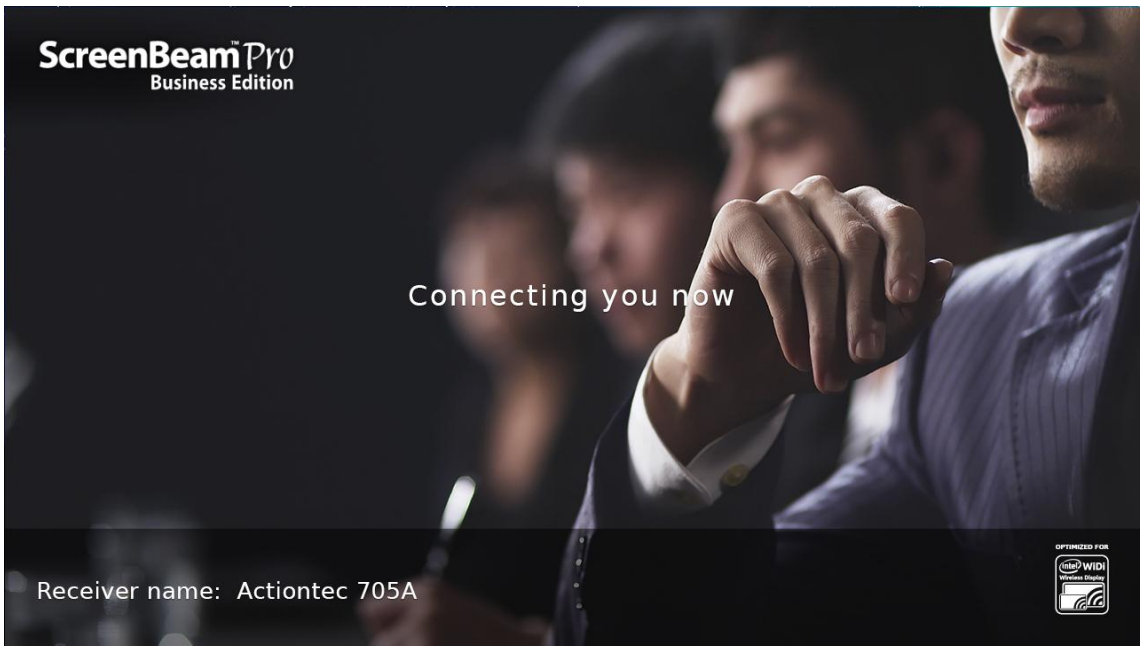
5. A PIN entry box is displayed on the screen of your Windows 8.1 device. And you can see a PIN code and the host name (**QA-PC01** in this example) of the connecting device displayed on the HDTV. Type the PIN in the PIN entry box and click **Next** to continue.





Note: You should obtain the security PIN from your network administrator if no PIN is displayed on the connected display device.

6. The HDTV displays messages to show the status of the connection.



7. The device has connected to the Receiver. And the device's screen is displayed on the HDTV.

   Note: Intel Pro WiDi will run automatically if your device is compatible with Intel Pro WiDi and has the app installed.

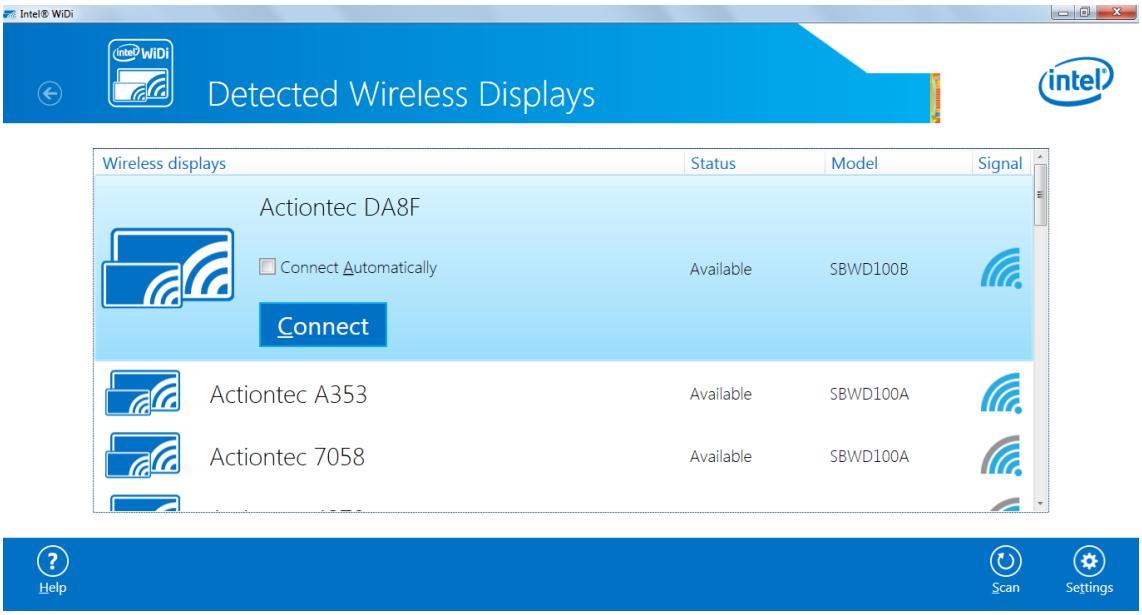
3.2. Connecting via Intel® WiDi App (Gen 4)

Note: Connection using Intel WiDi (4.x.x.x) is available when the receiver's AGO feature is disabled. Refer to Section 5.3.16. **Setting up Autonomous Group Owner (AGO)** for details about AGO.

This section explains how to connect a device running Intel's **WiDi** application to the receiver.

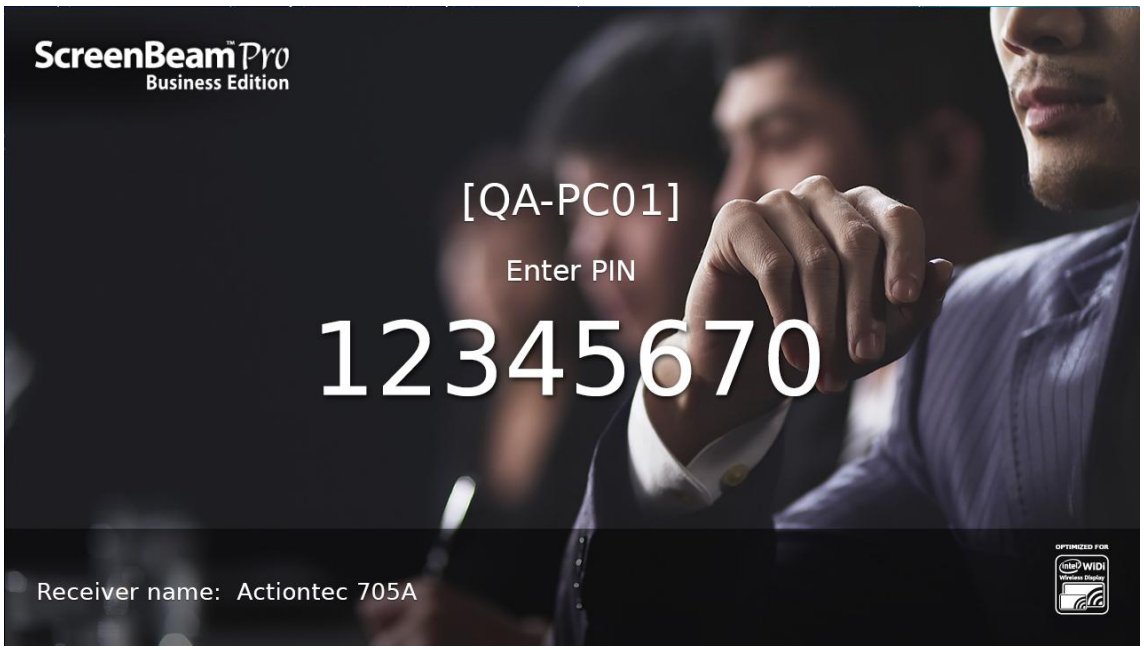
Follow the procedure below to connect your device to the Receiver:

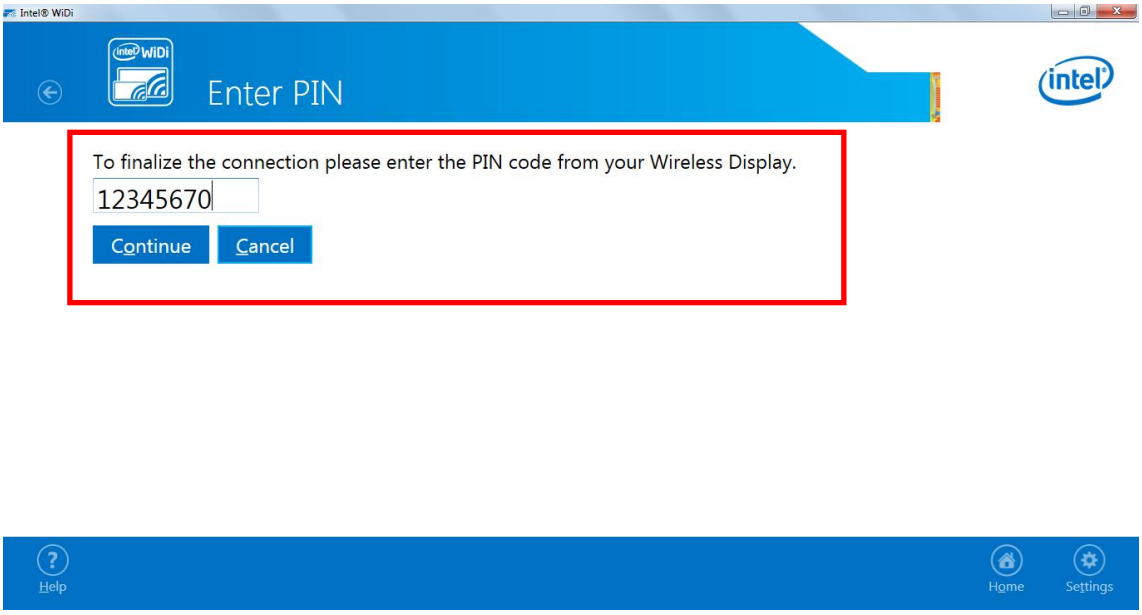
1. Launch the Intel **Wireless Display** application on the device. To find the application, go to **Windows Search** on the device and search for "**Intel WiDi**".
2. The Intel WiDi application scans for available receivers automatically. Select your receiver and click **Connect**. (The "**Connect Automatically**" checkbox is optional.)



Note: If your receiver is not found, you can click the **Scan** button to scan again.

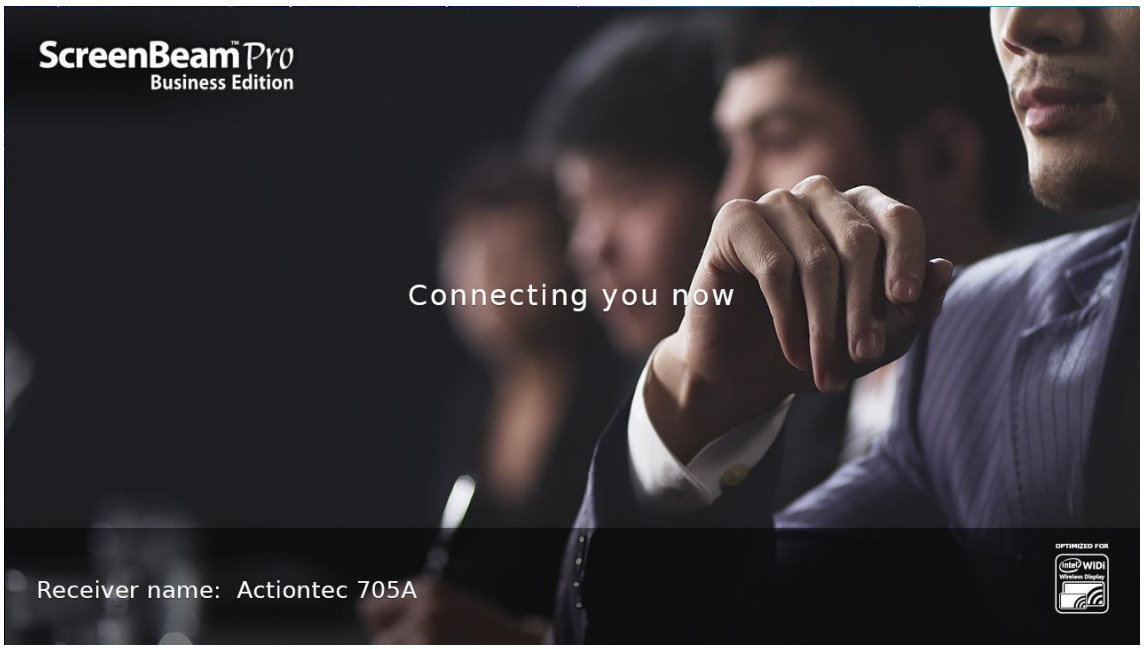
3. A PIN entry box is displayed on the screen of the WiDi device. And you can see a PIN code and the host name (**QA-PC01** in this example) of the connecting device displayed on the HDTV. Type the PIN in the PIN entry box on the WiDi device, and then click **Continue**.



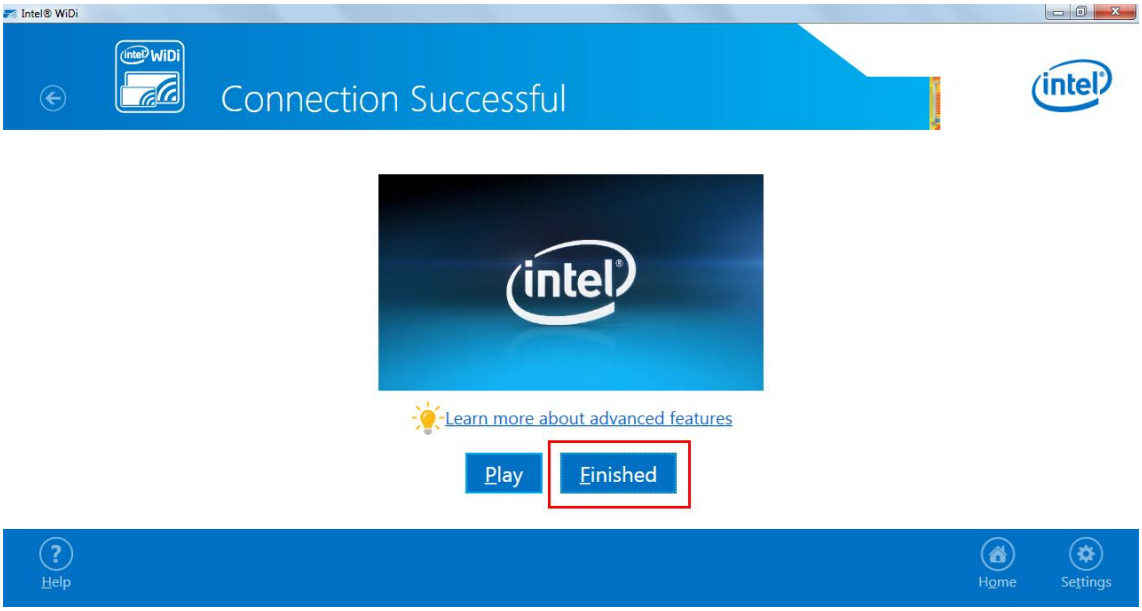


Note: You should obtain the security PIN from your network administrator if no PIN is displayed on the connected display device.

4. The HDTV displays messages to show the status of the connection.



5. A "**Connection Successful**" screen appears on the device's screen. Click **Finished**, and the device's screen is displayed on the HDTV.

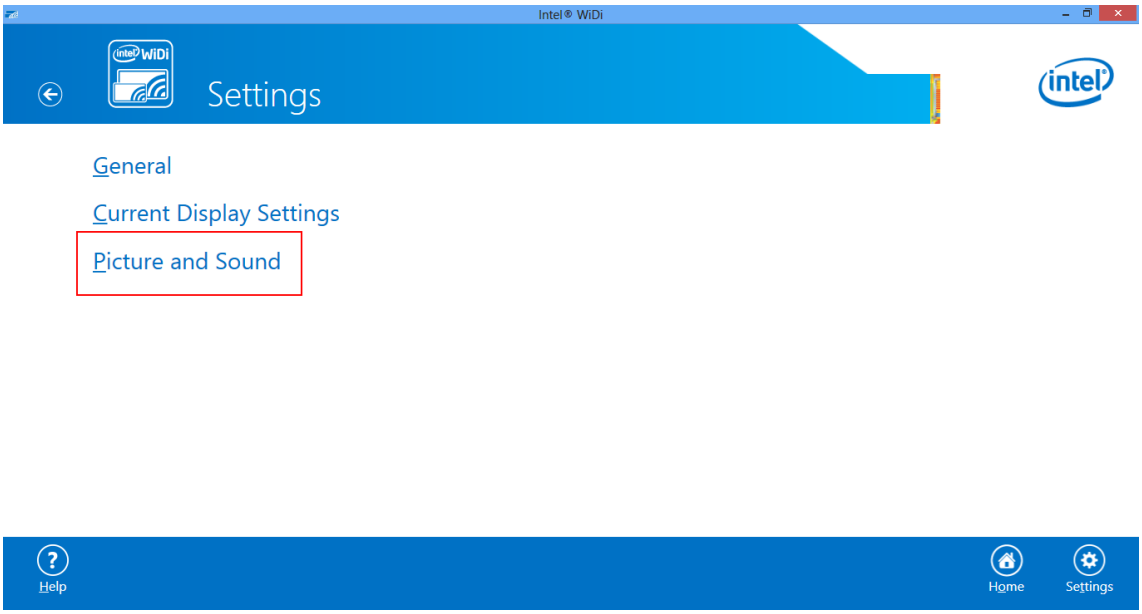


3.2.1. Adjusting the HDTV Picture

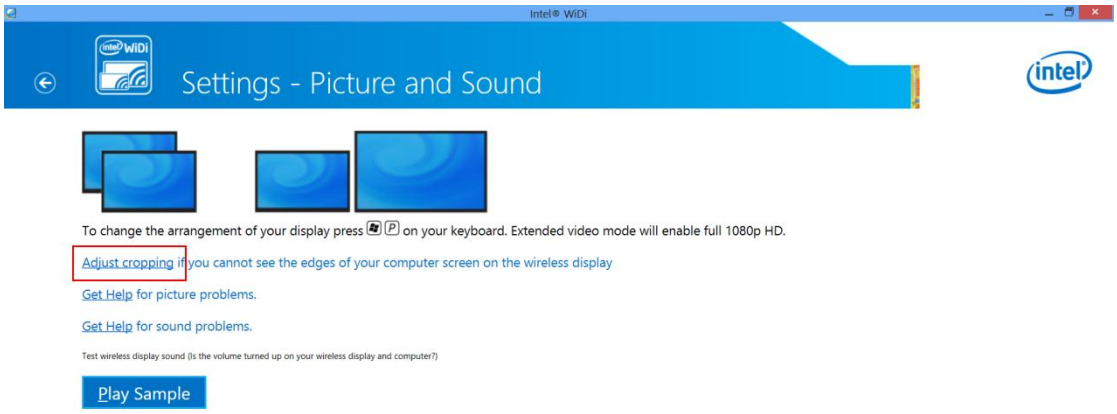
If edges of the device screen cannot be seen on the HDTV or you can see black edges, you can adjust the cropping settings.

Follow the steps below to adjust cropping:

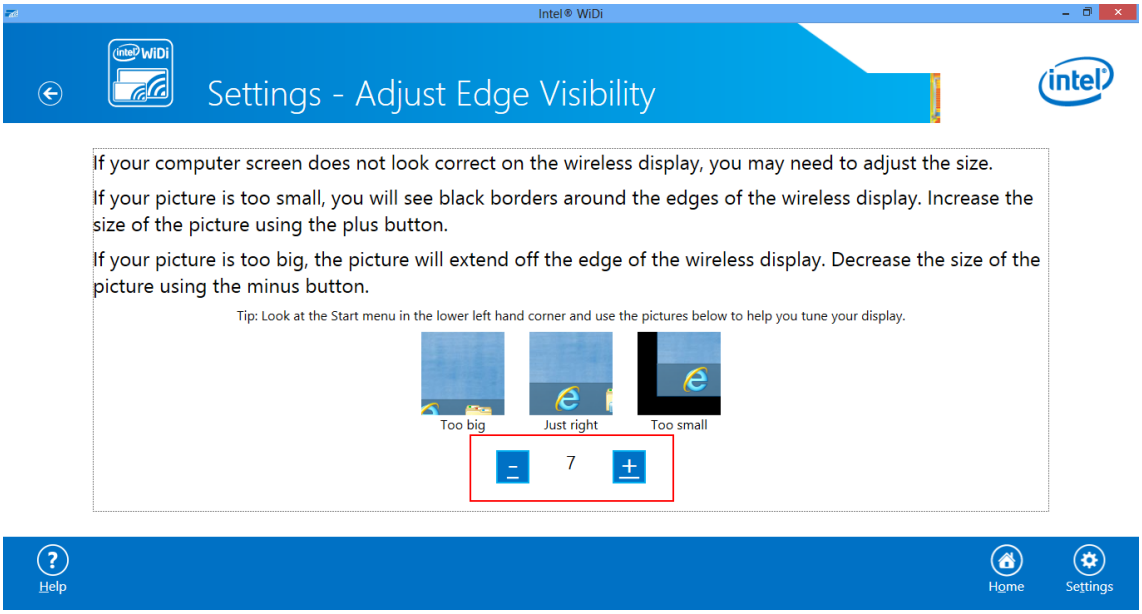
1. Go to the Intel WiDi application and click the **Settings** button to open the **Settings** page.



2. Go to the "**Picture and Sound**" section, and select “**Adjust cropping**”.


Intel® WiDi
Settings - Picture and Sound
To change the arrangement of your display press on your keyboard. Extended video mode will enable full 1080p HD.
Adjust cropping if you cannot see the edges of your computer screen on the wireless display
Get Help for picture problems.
Get Help for sound problems.
Test wireless display sound (Is the volume turned up on your wireless display and computer?)
Play Sample

3. Adjust the HDTV picture by clicking “**+**” **(plus)** or “**-**” **(minus)**.


Intel® WiDi
Settings - Adjust Edge Visibility
If your computer screen does not look correct on the wireless display, you may need to adjust the size.
If your picture is too small, you will see black borders around the edges of the wireless display. Increase the size of the picture using the plus button.
If your picture is too big, the picture will extend off the edge of the wireless display. Decrease the size of the picture using the minus button.
Tip: Look at the Start menu in the lower left hand corner and use the pictures below to help you tune your display.
Too big
Just right
Too small
7
Help
Home
Settings

3.2.2. Intel® WiDi Software Version Support

Make sure the device supports Intel Wireless Display (WiDi) software version 3.5 or higher. To find out which version of Intel WiDi the device is running, launch the Intel WiDi application and click the **Help** button, and then navigate to the "**About Intel® WiDi**" section. To obtain the latest Intel WiDi software and drivers, go to: http://www.intel.com/go/wirelessdisplayupdate; or directly click the **Check Intel® WiDi website for updates** link on the page.

3.3. Connecting via Intel® Pro WiDi App (Gen 5)

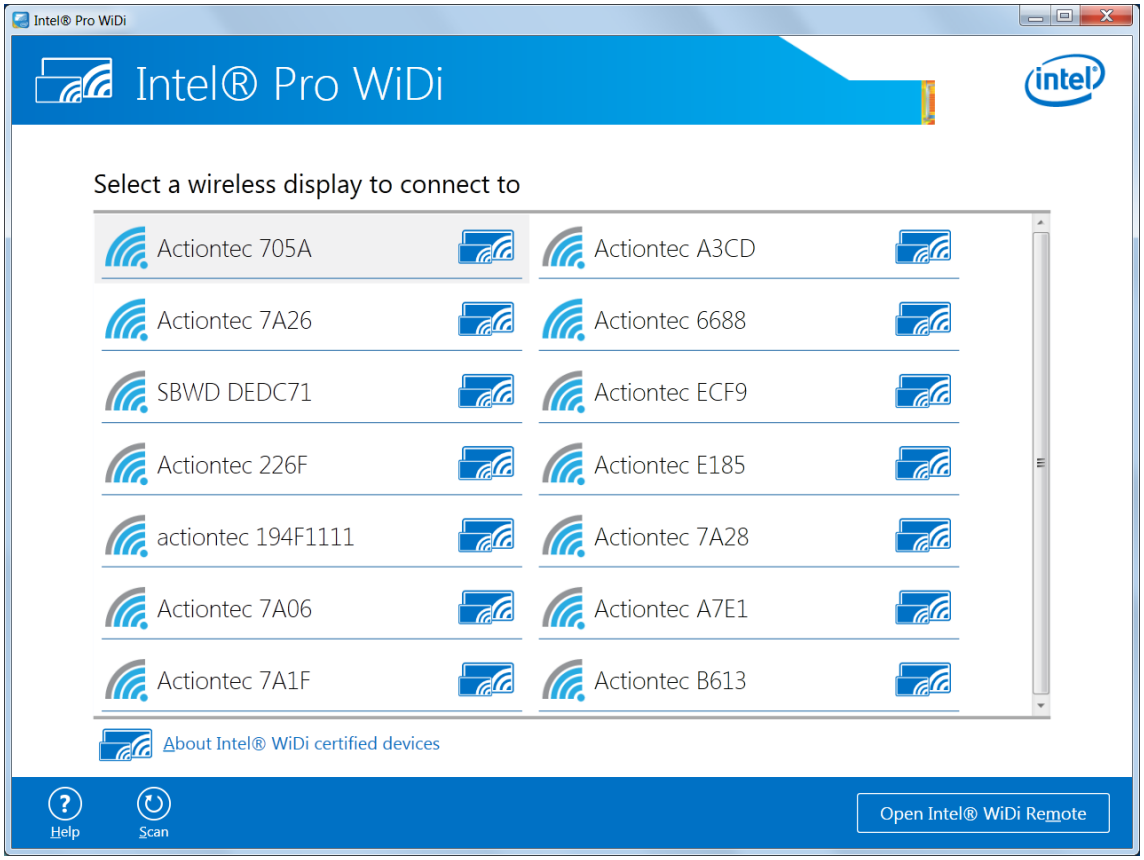
ScreenBeam Pro supports Managed Meetings, which is only available with Intel® Pro WiDi. To use this feature, ScreenBeam Pro must enable the AGO feature. In this case, Intel WiDi (4.x.x.x) can't connect to ScreenBeam Pro.

Note:

- To install Intel® Pro WiDi, you need a compatible Haswell system (Intel® Core™ vPro™ processor).
- For details about AGO, refer to Section 5.3.16. **Setting up Autonomous Group Owner (AGO)**.

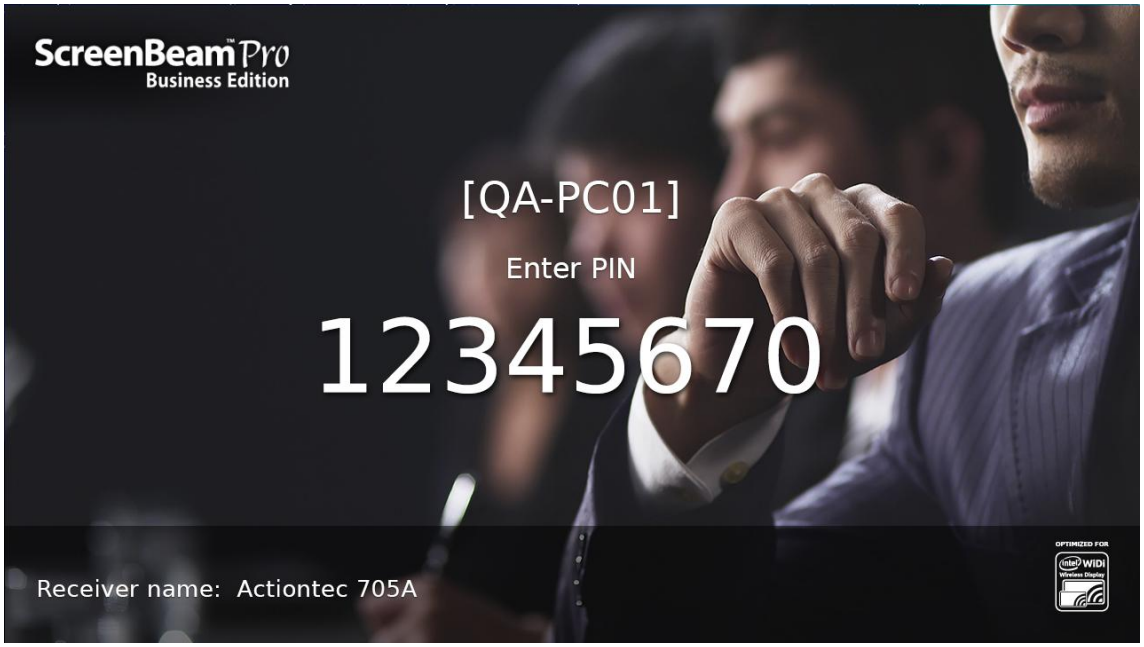
Follow the procedure below to connect your device to ScreenBeam Pro:

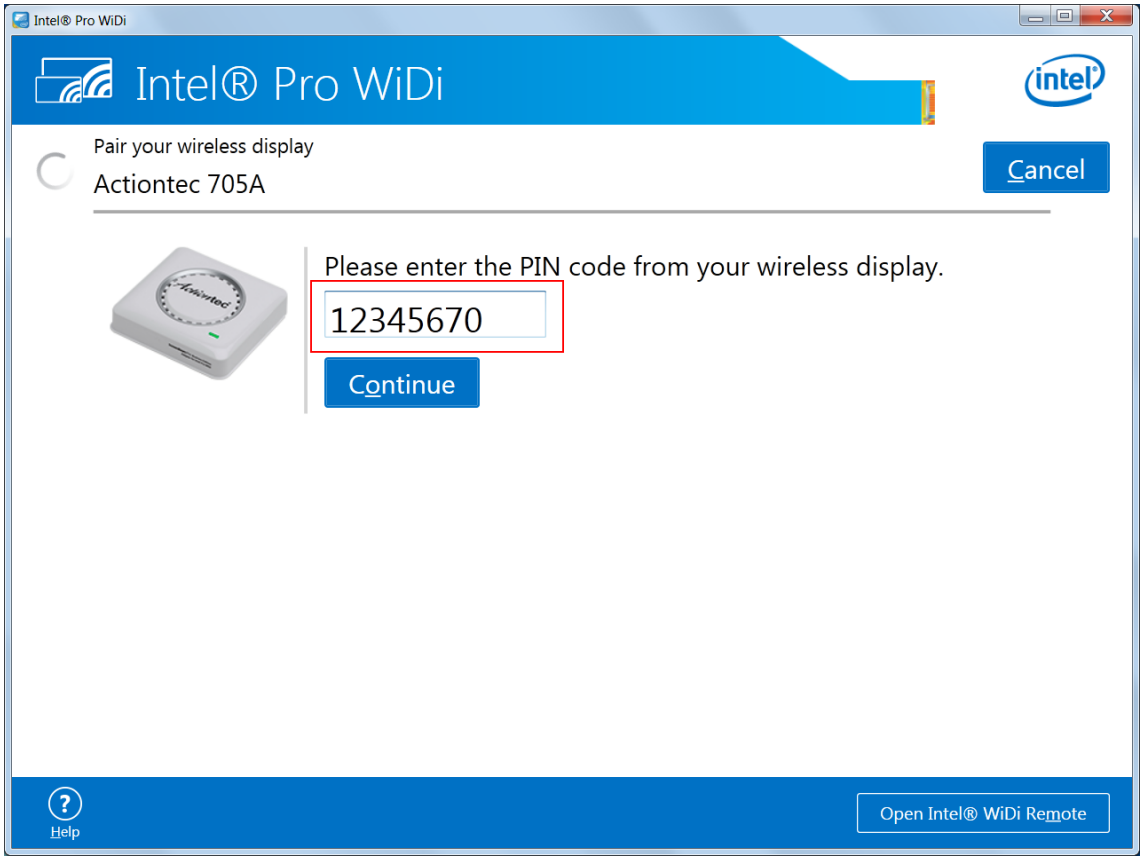
6. Launch the **Intel® Pro WiDi** application on the device.
7. The **Intel® Pro WiDi** application scans for available receivers automatically. Select your receiver to start the connection procedure.



Note: If your receiver is not found, you can click the **Scan** button to scan again.

8. A PIN entry box is displayed on the screen of the WiDi device. And you can see a PIN code and the host name (**QA-PC01** in this example) of the connecting device displayed on the HDTV. Type the PIN in the PIN entry box on the WiDi device, and then click **Continue**.

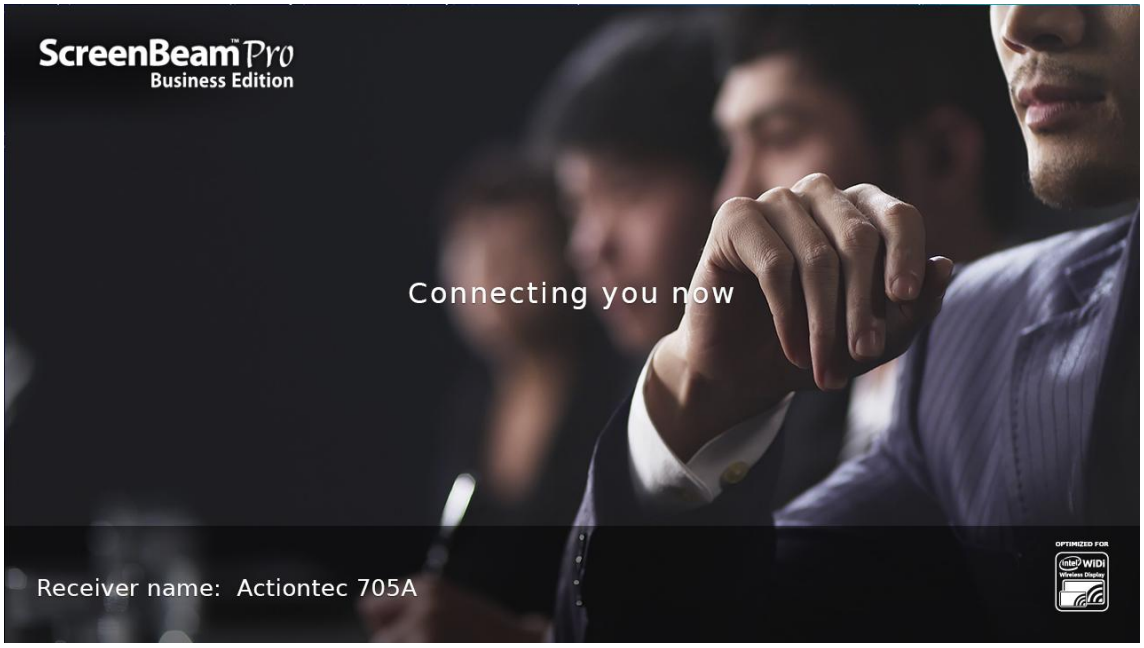




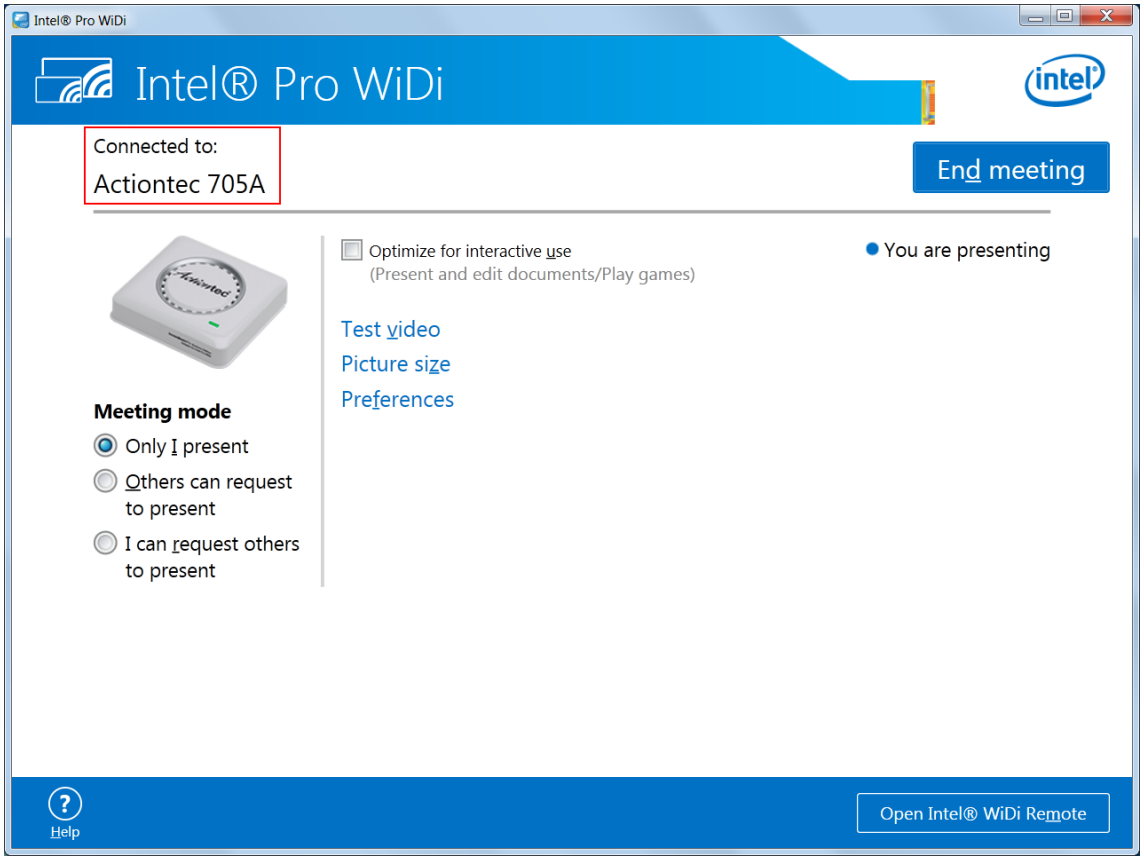
Note: You should obtain the security PIN from your network administrator if no PIN is

displayed on the connected display device.

9. The HDTV displays messages to show the status of the connection.



10. Your device will connect to ScreenBeam Pro, and the device's screen is displayed on the HDTV.



3.4. Connecting via Miracast™

This section explains how to connect a Miracast™-enabled Android device, such as a smartphone, a tablet, or a game console, to ScreenBeam Pro. For the best performance, the Miracast™ device should be running the latest software.

1. On a Miracast™-enabled Android device, locate and open the Wireless Display Application (check for the application under "**Settings**").
   Note: The name of the Wireless Display application depends on the device type and model. Refer to the device's user manual for more details.
2. The Wireless Display application scans for available devices. Select your receiver from the device list. You may be required to enter a PIN code.
   Note:
   - You should obtain the security PIN from your network administrator if no PIN is displayed on the connected display device.
   - If a PIN is displayed on the connected display device, you should type this PIN in the PIN entry box.
   - Some Android devices do not support the PIN paring method. In this case, the IT/admin needs to disable the Force PIN Pairing feature. To do that, refer to 5.3.5. Setting up PIN Pairing Method.
3. Type the PIN in the PIN entry box and tap **Connect** to continue.
4. Wait for the device to pair with and connect to your receiver. When it does, the device's screen will be displayed on the HDTV.

3.5. Tips for Optimal Performance

For optimal performance, you can try these tips:

- Keep the Receiver within line-of-sight of the source device. Doing this will help ensure the Receiver receives the best possible signal.
- The Receiver's optimal wireless range is within 30 feet from the source device. However, actual range and effectiveness depends on many factors, including other sources of interference and the building materials used in the surrounding structure.
- Avoid placing the receiver near wireless interference sources, such as electric fans, items with motors, microwave ovens, cordless phones.

Part IV. Control and Display

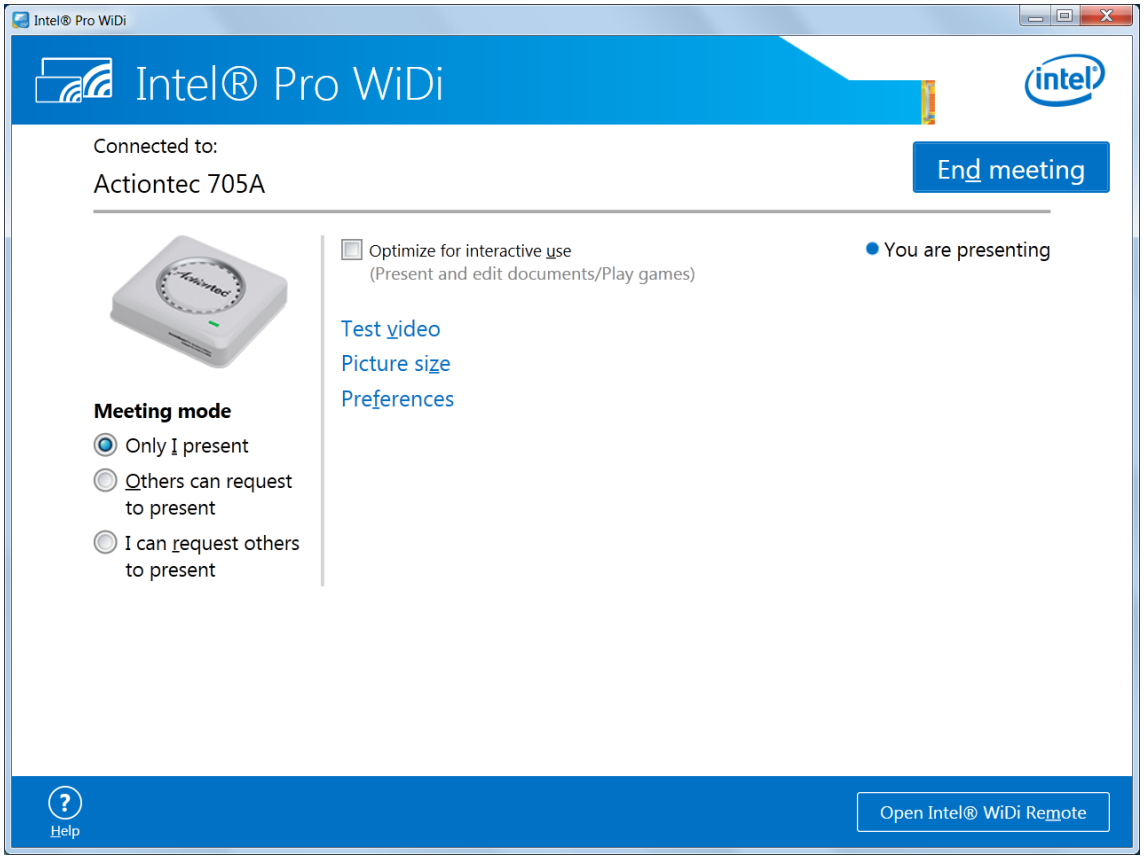
This chapter describes the display modes and control options that are supported by the Receiver.

4.1. Intel Pro WiDi and Managed Meetings

ScreenBeam Pro supports the Managed Meetings feature, which is provided with **Intel Pro WiDi** (Gen 5). The Managed Meetings feature allows meeting participants to share their screens interactively, or allow the owner (the first connected user who has set the interactive mode to "**I can request others to present**") to manage other participants.

There are three meeting modes available when the Managed Meetings function is enabled.

- **Only I present.** No one else can share or take control.
- **Others can request to present.** Other people can request control/sharing.
- **I can request others to present.** You control sharing.



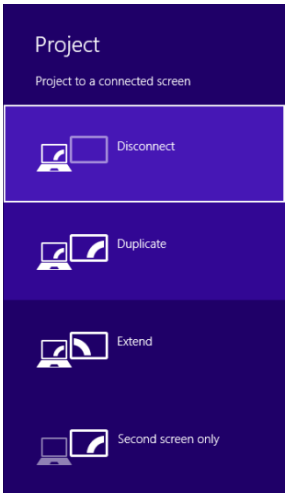
Note: To use the **Managed Meetings** function, the **AGO** function must be enabled. Refer to Section 5.3.16. **Setting up Autonomous Group Owner (AGO)** for details.

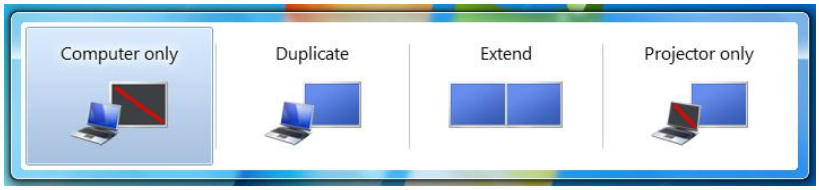
Note: Intel® Pro WiDi (WiDi 5.x.x.x) requires the Haswell systems.

Note: For detailed operation and related information about Intel Pro WiDi, refer to http://www.actiontec.com/prowidi.

4.2. Display Mode

The Receiver supports three display modes when connected with a compatible wireless display application (**Intel WiDi** or Windows 8.1 **Project**, for example).
In Windows, press the Windows logo and **P** keys simultaneously (+ **P**) to launch the display options and select the desired display mode from the options.





- **Duplicate**

The **Duplicate** mode is used to display the same content on both the device's screen and the HDTV simultaneously.
Note: There may be minor delay between the content displayed on the HDTV screen compared to the device's screen. This is due to the current state of wireless display technology.

- **Extend**

The **Extend** mode creates a single, extended "screen" between the source device and the HDTV. When in the **Extend** mode, dragging windows to the right side of the device's screen displays those windows on the HDTV, while dragging windows to the left of the HDTV screen displays them back on the device's screen. This mode allows users to display selected content on the HDTV, while all other windows remain on the device's screen. When this mode is first selected, the HDTV displays only the Windows desktop.

- **Second Screen Only**

The **Second Screen Only** mode causes the HDTV to be the only display for the device. You'll see everything on the connected screen, and your device's screen will be blank.

4.3. Ultra-Low Delay

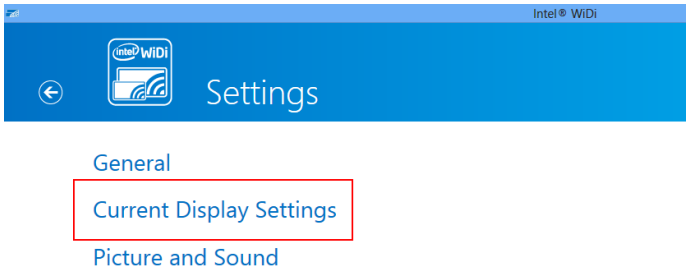
The Receiver also supports ultra-low delay, which helps reduce end-to-end wireless display latency. Real-time applications, such as games, can run without noticeable delay when the Ultra-Low Delay mode is enabled on supported devices.

4.3.1. Intel WiDi (Gen 4)

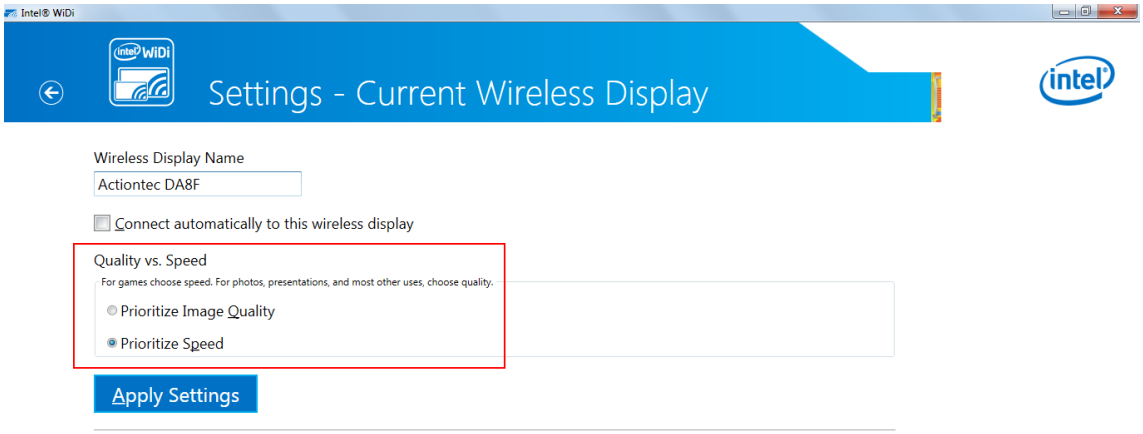
You can activate Ultra-Low Delay on a device running Intel WiDi (4.x.x.x). Follow the steps below to switch to ultra-low delay mode:

1. Launch the Intel WiDi application, connect to the receiver you are using, and then click the **Settings** button.

2. On the "**Settings**" screen, select **Current Display Settings**.



3. Select **Prioritize Speed** in the "**Quality vs. Speed**" section and click the **Apply Settings** button.


Intel® WiDi
Settings - Current Wireless Display
Wireless Display Name
Actiontec DA8F
Connect automatically to this wireless display
Quality vs. Speed
For games choose speed. For photos, presentations, and most other uses, choose quality.
Prioritize Image Quality
Prioritize Speed
Apply Settings

4.4. USB over Network

The Receiver's USB over Network (UoIP) feature allows the use of USB HID peripheral devices, either from the source device or from the USB device side. To connect a USB keyboard, mouse, or trackpad:

1. Log into the receiver's local web management console, and set the **UoIP** or **UIBC** feature to **Enable**. Refer to Section 5.3.10. Setting up USB Local Access for details.
2. Plug the device into the Receiver's USB port and wait for the device to be detected. This may take 10-15 seconds.
3. Use the USB keyboard, mouse, or trackpad to control the source device.

Note: UoIP is compatible with Intel WiDi only.

Part V. Device Management for IT Administrator

ScreenBeam Pro provides a local management web server to manage the device. With the web server, IT administrators can setup, configure and upgrade the receiver.

5.1. Log into the Local Management Web Server

There are two methods to log into the local management web server.

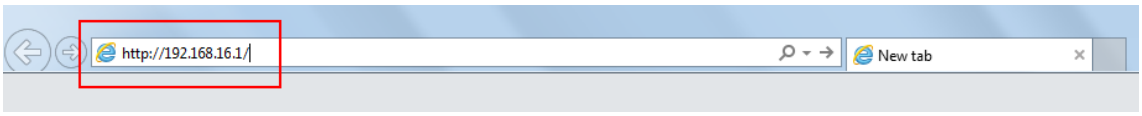
5.1.1. When Autonomous GO is Enabled

When **Autonomous GO** is enabled, you can log into the local management web server through "**http://192.168.16.1**". You must connect your device to the receiver, and then access the URL address with a web browser.

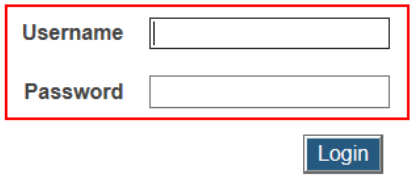
Note: **http://192.168.16.1** is the default URL address. You can modify this URL address in the local management web page. Refer to Section 5.3.19. **Setting up P2P Network Parameters** for detail.

Follow the procedure below to log into the local management server when AGO is enabled.

1. Connect your device to ScreenBeam Pro.
2. Access the URL address (**http://192.168.16.1**) with a web browser on your device.



3. The web server login interface appears. Type the username and password in the **Username** and **Password** boxes and click the **Login** button.



Note:

- By default, the Username is "**Administrator**" and Password is "**WiDi**". You can modify the username and password in the local management web page. Refer to Section 5.3.2. **Setting up Login Username and Password for the Local Management Console** for detail.
- The username and password are case sensitive.
- When **Autonomous GO** is enabled, the SSID of the receiver is reserved.

5.1.2. When Autonomous GO is Disabled

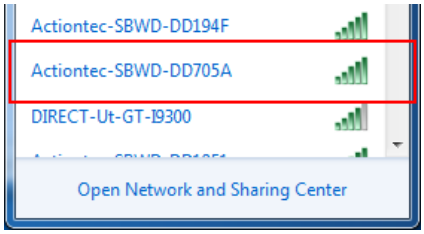
When **Autonomous GO** is disabled, you must connect your device to the receiver's SSID, and then access the URL address (it is "**http://192.168.51.1**" by default) with a web browser. **Note**: You can set the receiver's network information to be displayed on the **Ready to connect** screen. Refer to Section 5.3.15. **Setting up Network Information Display on TV Screen** for detail.

Follow the procedure below to log into the local management web server:

1. Connect to the receiver's SSID from a wireless-enabled laptop (or other devices with Wi-Fi access ability and a web browser). You can find the SSID in the lower part of the **Ready to connect** screen.

Note: If the network information display is disabled, you can find the SSID of the receiver on the Wi-Fi connection list by following these tips: the SSID of the receiver is in this format "Actiontec-SBWD-xxxxxx", and the last four characters are the same as the last four of the receiver name.

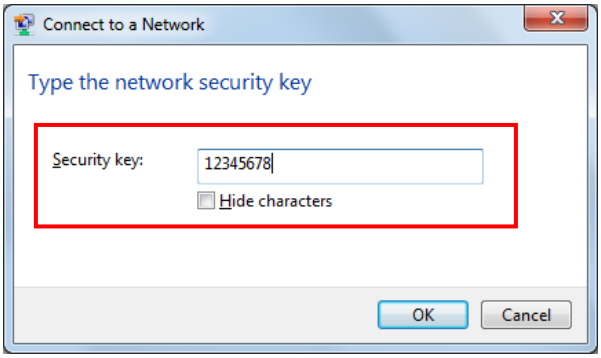
2. Click the wireless network icon to open the **Networks** page, and select the receiver's SSID.



Note: You can modify this SSID and its password in the local management web page. Refer to Section 5.3.21. **Modifying the Receiver's Wireless Network Name (SSID)** for detail.

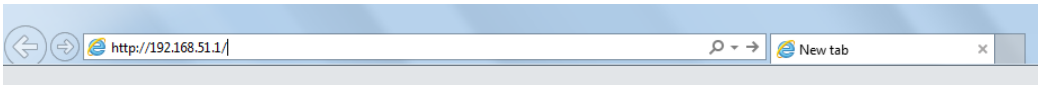
3. The **Connect to a Network** window appears. Type the network security key in **Security key** box of the **Connect to a Network** dialog box. Click **OK** to continue.

Note: By default, the network security key is "**12345678**".



Note: You can modify this SSID and its password in the local management web page. Refer to Section 5.3.21. **Modifying the Receiver's Wireless Network Name (SSID)** for detail.

4. Access the URL address ("**http://192.168.51.1**" in this example) with a web browser on the laptop.



Note: You can modify this URL address in the local management web page. Refer to Section 5.3.20. **Setting up Wireless Network Parameters** for detail.

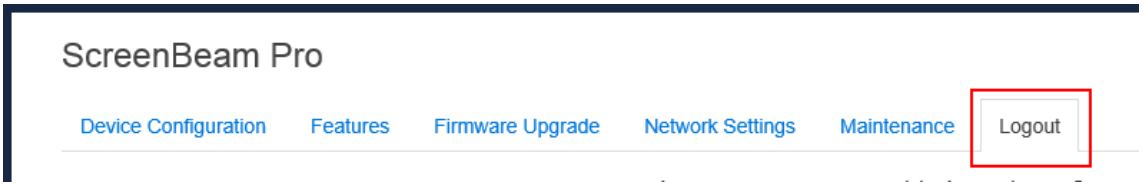
5. The web server login interface is displayed. Type the username and password in the **Username** and **Password** boxes and click the **Login** button.

Note:

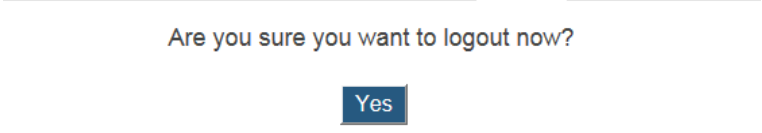
- By default, the Username is "**Administrator**" and Password is "**WiDi**". You can modify the username and password in the local management web page. Refer to Section 5.3.2. **Setting up Login Username and Password for the Local Management Console** for detail.
- The username and password are case sensitive.

5.2. Log Out

1. Go to the **Logout** tab page by clicking the **Logout** tab.



2. Click the "**Yes**" button to log out.



3. You will log out from the local management web page immediately.

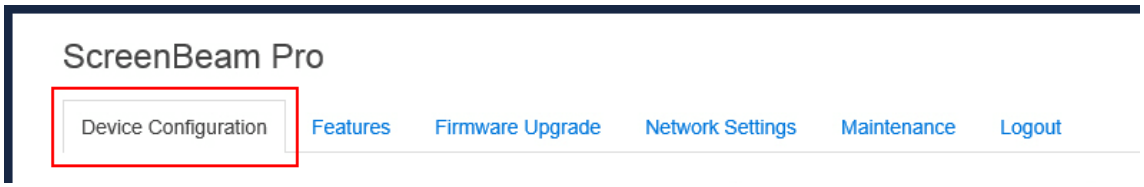
5.3. Configuring the Receiver

After you have logged into the local management console, you can configure ScreenBeam Pro on the webpage.

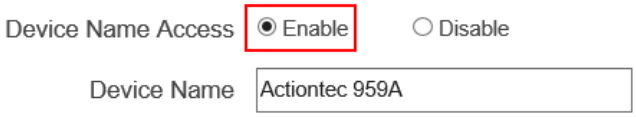
5.3.1. Renaming the Receiver

Follow the procedure below to rename the receiver:

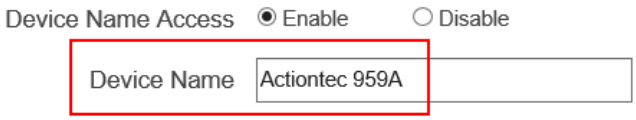
1. Go to the **Device Configuration** tab page by clicking the **Device Configuration** tab.



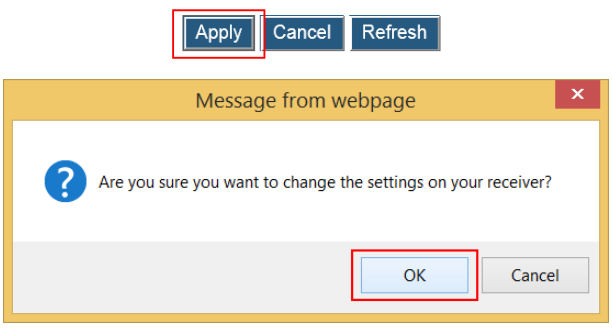
2. Set the **Device Name Access** to **Enable**.



3. Type a new name in the **Device Name** box.



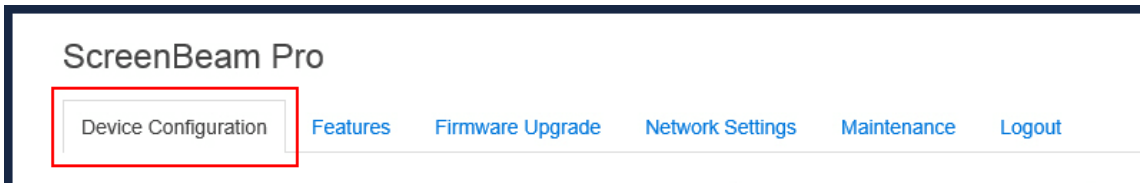
4. Click the **Apply** button, and then click **OK** on the pop-up message box to confirm.



5.3.2. Setting up Login Username and Password for the Local Management Console

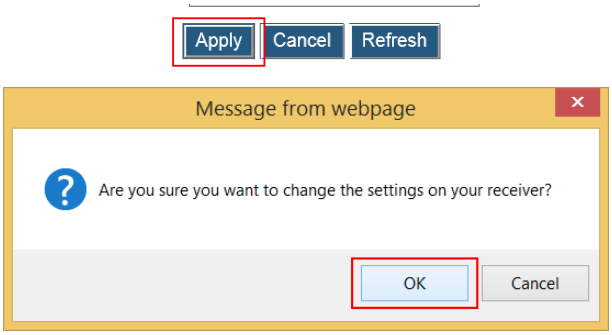
You can modify the user name and password for logging into the local management server.

1. Go to the **Device Configuration** tab page by clicking the **Device Configuration** tab.



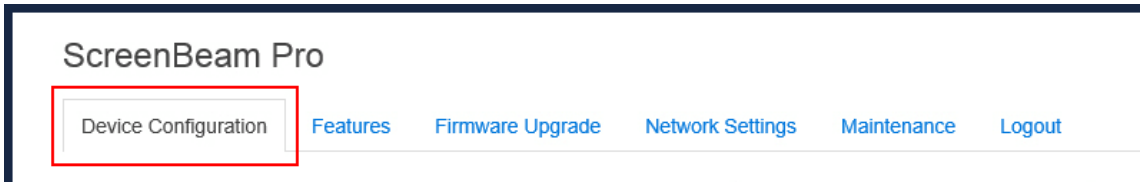
2. Type new username and password in the **Administrator Username** and **Administrator Password** boxes.

3. Click the **Apply** button, and then click **OK** on the pop-up message box to confirm.



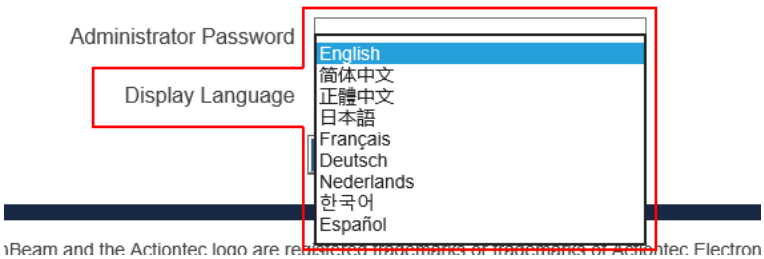
5.3.3. Setting up the Receiver's Display Language

1. Go to the **Device Configuration** tab page by clicking the **Device Configuration** tab.

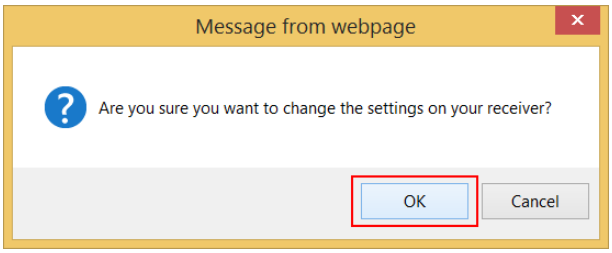


2. Choose a desired language from the **Display Language** drop-down box.
   Currently available languages are Simplified Chinese, Traditional Chinese, Dutch, English, French, German, Japanese, Korean, and Spanish.

Note: This will change the language display on the TV screen and not on the configuration webpage.



3. Click the **Apply** button, and then click **OK** on the pop-up message box to confirm.



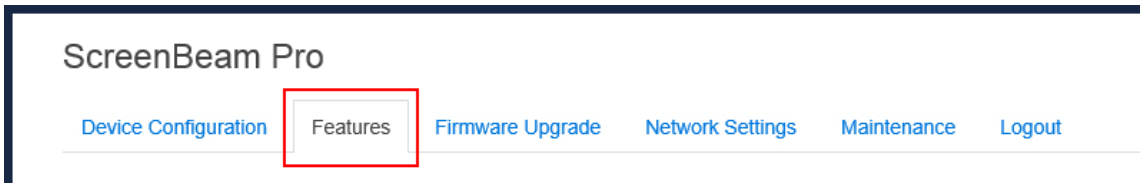
5.3.4. Setting up Managed Meetings

The Managed Meetings function allows meeting participants to share the wireless display interactively, or allows the meeting mediator to manage the display requests from the meeting participants.

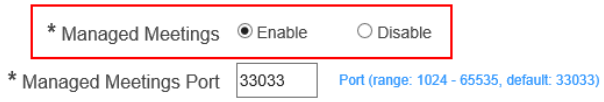
The Managed Meetings is available when AGO is enabled.

For more information about Managed Meetings, refer to Section 4.1. Intel **Pro WiDi and Managed Meetings**.

1. Go to the **Features** tab page by clicking the **Features** tab.

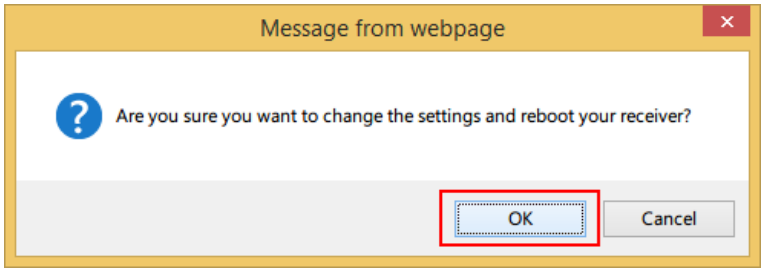


2. To enable/disable Managed Meetings, set the Managed Meetings function to **Enable**/**Disable**.



3. For better communication, you can define a port (**Managed Meetings Port**) for the Managed Meetings, as shown below:

4. Click the **Apply** button, and then click **OK** on the pop-up message box to confirm.



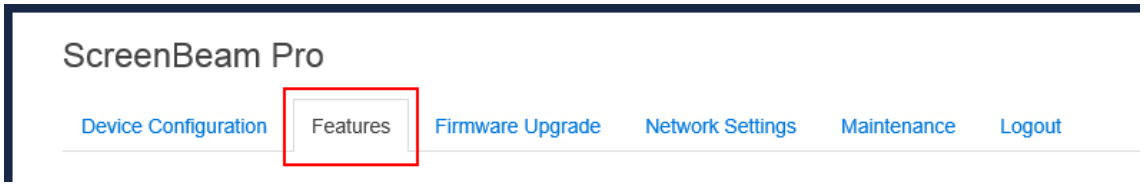
5. The receiver reboots, and new settings take effect after the reboot.

5.3.5. Setting up PIN Pairing Method

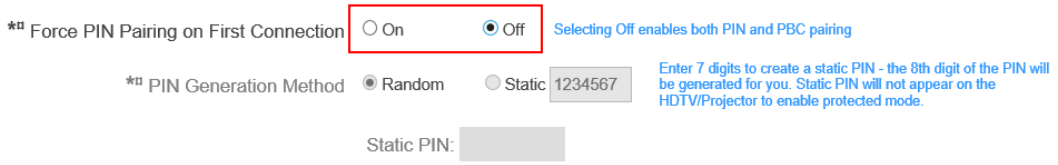
For security purpose, you may be required to connect to ScreenBeam Pro with a PIN. You can define the PIN pairing method in the local management page.

Follow the procedure below to set up PIN pairing methods:

1. Go to the **Features** tab page by clicking the **Features** tab.



2. Set the **Force PIN Pairing on First Connection** feature to **On** or **Off**.


*¤ Force PIN Pairing on First Connection
On
Off
Selecting Off enables both PIN and PBC pairing
*¤ PIN Generation Method
Random
Static
1234567
Enter 7 digits to create a static PIN - the 8th digit of the PIN will be generated for you. Static PIN will not appear on the HDTV/Projector to enable protected mode.
Static PIN:

- Select "**Off**" to disable the PIN enforcement function. PIN entry or PBC is used when connecting your device to the receiver for the first time.
- Select "**On**" to enable the PIN enforcement function. In this case, you must enter a PIN code on the device connecting to the receiver for the first time. When this function is enabled, the system provides two PIN generation methods: **Random** and **Static**.

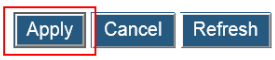
  Note: Some wireless display source devices do not support PIN entry and may not be able to connect with the ScreenBeam receiver if this mode is enabled. Refer to the device's user manual for detail about enabling the PIN connection.

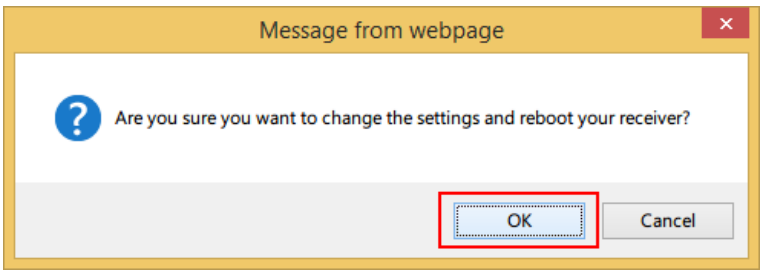
  - **Random**: A PIN code is generated randomly by the system and displayed on the connected HDTV/projector.
  - **Static**: Users can define seven (7) digits, and then the system generates an eight (8) digit PIN with that seven digits included.

    Enter seven (7) digits in the **Static** box, click the "**Apply**" button, and the system generates an eight (8) digit PIN and display it on the **Static PIN** field. This PIN will not be displayed on the connected display.

*¤ Force PIN Pairing on First Connection
On
Off
Selecting Off enables both PIN and PBC pairing
*¤ PIN Generation Method
Random
Static
1234567
Enter 7 digits to create a static PIN - the 8th digit of the PIN will be generated for you. Static PIN will not appear on the HDTV/Projector to enable protected mode.
Static PIN:
12345670

3. Click the **Apply** button, and then click **OK** on the pop-up message box to confirm.





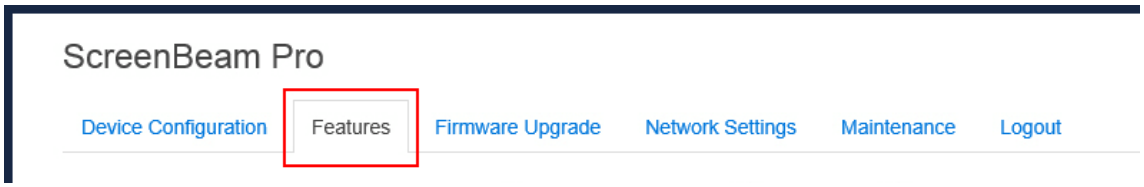
Note: If you have selected **Static**, do remember to check the PIN code in the **Static PIN** field and write it down before clicking **OK**.

4. The receiver reboots, and new settings take effect after the reboot.

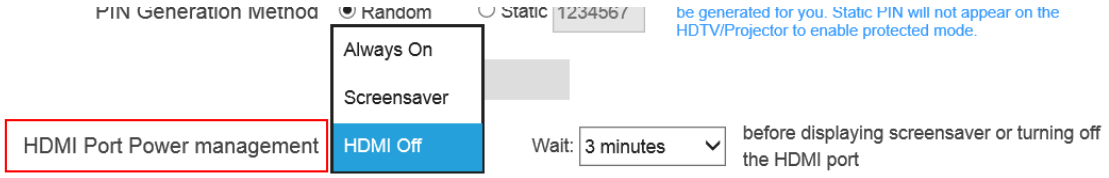
5.3.6. Managing HDMI Port Output

The **HDMI Port Power management** feature provides flexible options to control the HDMI outputs.

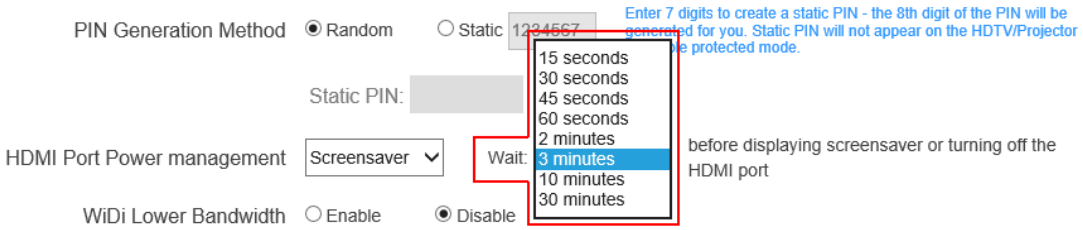
1. Go to the **Features** tab page by clicking the **Features** tab.



2. Select the desired option in the **HDMI Port Power management** drop-down box. There are three options: **Always On**, **Screensaver**, and **HDMI Off**.

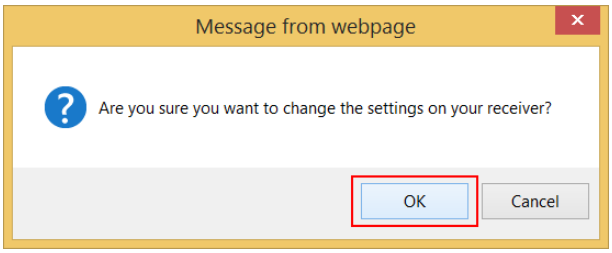


- **Always On**: Selecting this option, the HDMI output is always on.
- **Screensaver**: Selecting this option, the system will run the screensaver after the defined idle time expires. Users can define the idle time in the **Wait** time box.



- **HDMI Off**: Selecting this option, the HDMI output will be turned off after the defined idle time expires. Users can define the idle time in the **Wait** time box.

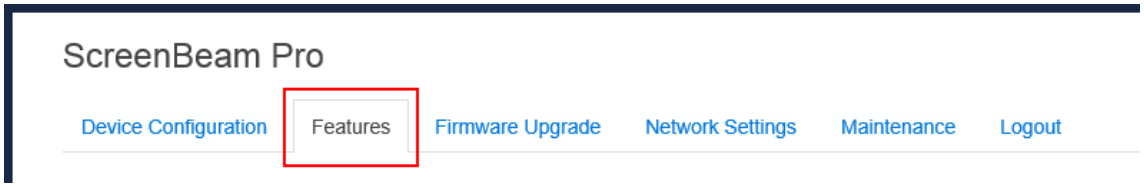
3. Click the **Apply** button, and then click **OK** on the pop-up message box to confirm.



5.3.7. Setting up WiDi Lower Bandwidth

The WiDi Lower Bandwidth is used to control video quality and speed.
Follow the procedure below to set up WiDi Lower Bandwidth for the receiver:

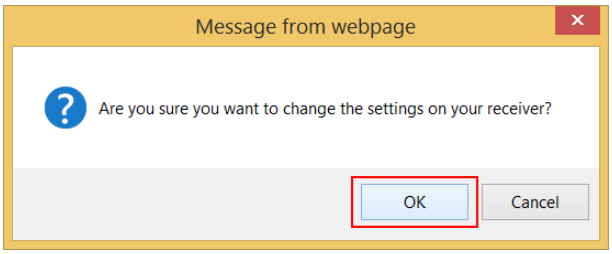
1. Go to the **Features** tab page by clicking the **Features** tab.



2. Set **WiDi Lower Bandwidth** to **Enable** or **Disable** according to practical requirements.

- **Enable**: This will limit the bandwidth for WiDi. In a congested network, this can produce relatively smooth video playback.
- **Disable**: The bandwidth for WiDi is not limited. This will produce better video quality for video playback when working in a clean network.

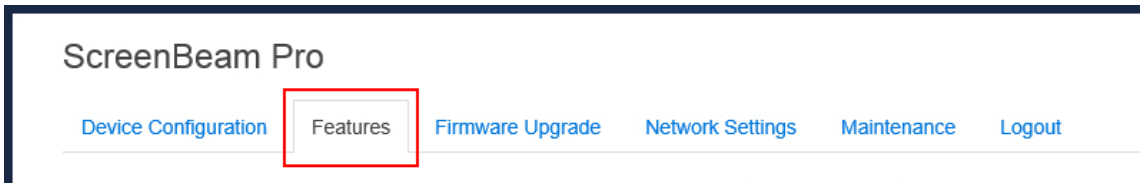
3. Click the **Apply** button, and then click **OK** on the pop-up message box to confirm.



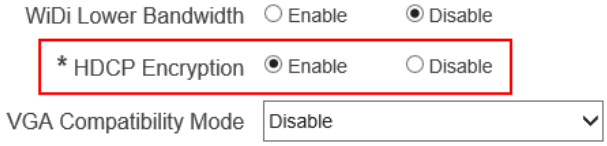
5.3.8. Setting up HDCP Encryption

The **HDCP Encryption** feature can improve connection speed and compatibility when it is disabled.
Follow the procedure below to set up HDCP encryption:

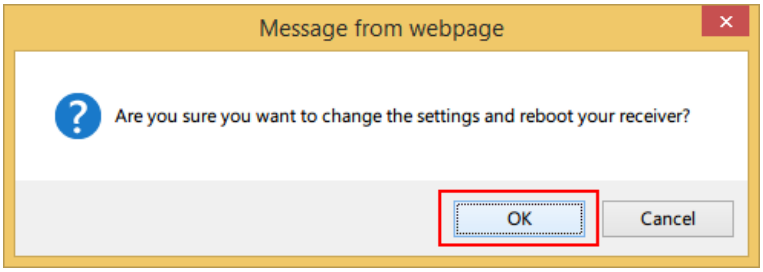
1. Go to the **Features** tab page by clicking the **Features** tab.



2. Set the **HDCP Encryption** feature to **Enable** or **Disable** according practical requirements.
   - **Enable**: This option is default. HDCP encryption is enabled to protect HDCP protected media.
   - **Disable**: Disabling the **HDCP Encryption** function will improve connection speed and compatibility. However, you cannot play HDCP protected media.



3. Click the **Apply** button, and then click **OK** on the pop-up message box to confirm.



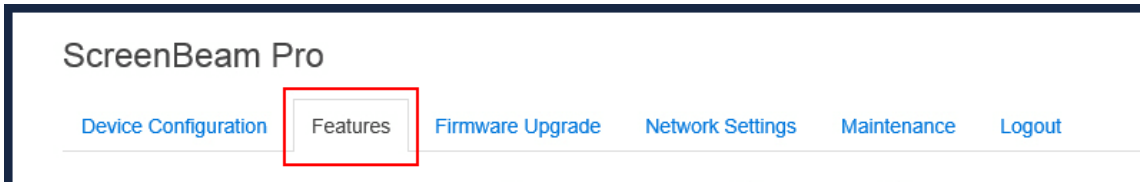
4. The receiver reboots, and new settings take effect after the reboot.

Warning: DO NOT disable this feature, unless you have confirmed that your display device supports that.

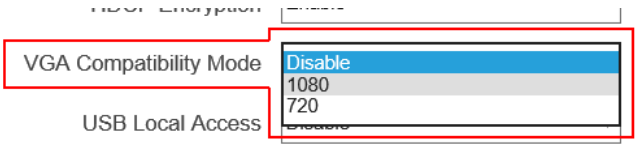
5.3.9. Setting up the VGA Compatibility Mode

Follow the procedure below to select a VGA compatibility mode:

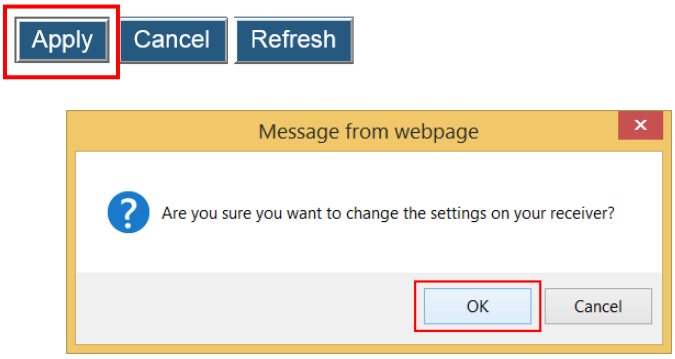
1. Go to the **Features** tab page by clicking the **Features** tab.



2. Go to the **VGA Compatibility Mode** line, and select the desired option in the **VGA Compatibility Mode** box. There are three options: **Disable**, **1080**, and **720**.
   - **Disable**: The video output is in consistence with the source device.
   - **1080**: The video output is set to 1080p or 1080i, depending on the display device.
   - **720**: The video output is set to 720p or 720i, depending on the display device.



3. Click the **Apply** button, and then click **OK** on the pop-up message box to confirm.

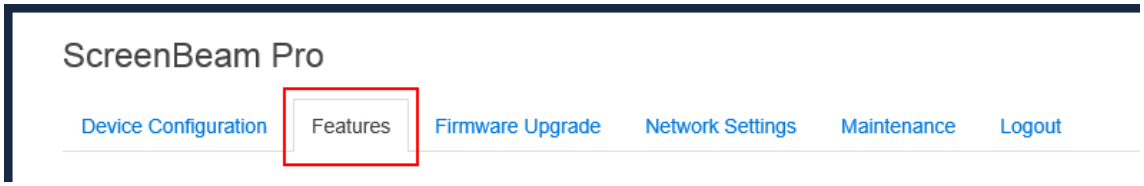


5.3.10. Setting up USB Local Access

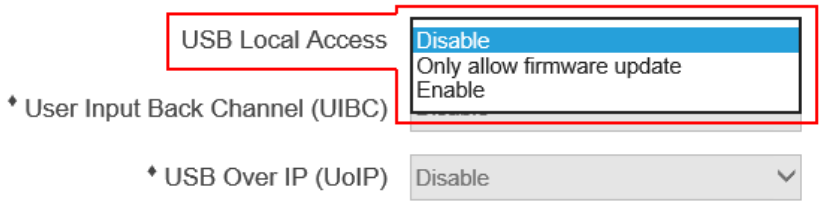
A USB port is provided on the ScreenBeam Pro wireless display receiver for multi-purpose uses. You can set up the USB port in the local management page.

Follow the steps below to set up the USB port:

1. Go to the **Features** tab page by clicking the **Features** tab.



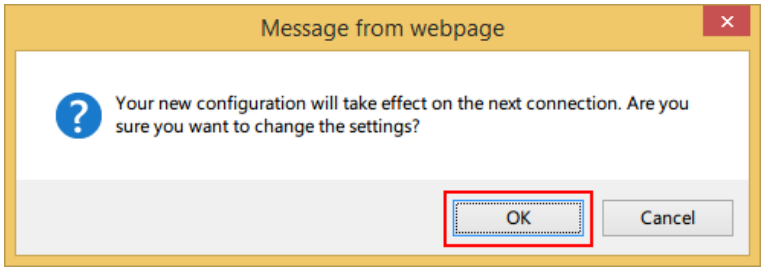
2. Configure the **USB Local Access** feature according to practical requirements. There are three options: **Disable**, **Only allow firmware update**, and **Enable**.



- Disable: Select "**Disable**" to disable the USB port on the receiver.
- **Only allow firmware update:** Select "**Only allow firmware update**" to allow users to upgrade the receiver's firmware through the USB port.
- **Enable:** Select "**Enable**" to allow full functions of the USB port. In this case, users not only can upgrade the receiver, but also can control the source device by connecting a keyboard/mouse to the receiver via the USB port (with the **User Input Back Channel (UIBC)** or **USB over IP (UoIP)** function enabled).
  - **UIBC**: The connected keyboard/mouse does not support combo keys or mouse right-click.
  - **UoIP**: The connected keyboard/mouse supports full functions.

Note: UoIP is compatible with Intel WiDi only.

3. Click the **Apply** button, and then click **OK** on the pop-up message box to confirm.

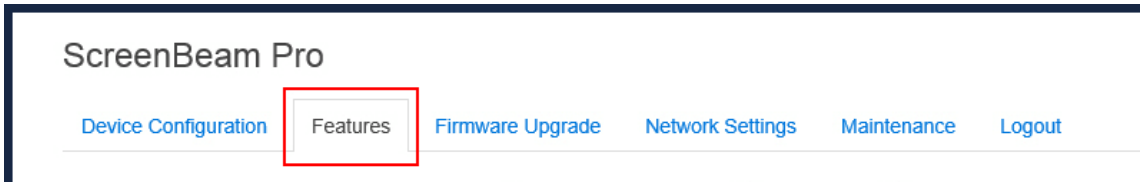

Message from webpage
Your new configuration will take effect on the next connection. Are you sure you want to change the settings?
OK
Cancel

5.3.11. Adjusting TV Screen Size

If edges of the device screen cannot be seen on the HDTV or you can see black edges, you can adjust the TV screen size (overscan).

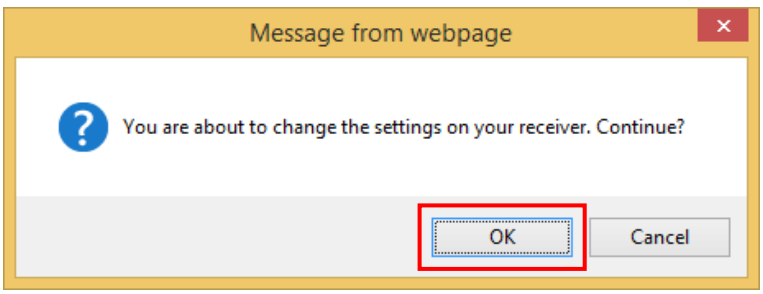
Follow the procedure below to adjust the size of your TV screen:

1. Go to the **Features** tab page by clicking the **Features** tab.



2. Go to the **TV Screen Size (Overscan Settings)** line, and select the desired option in the **TV Screen Size (Overscan Settings)** drop-down box.
   - The value for TV screen size ranges from 0 to 15. The larger the value is, the bigger the screen will be.
   - **Allow source device to override overscan value**: When this option is enabled (checked), the overscan value is in consistence with the setting on the source device. Otherwise, the overscan value is in consistence with the setting on the receiver.

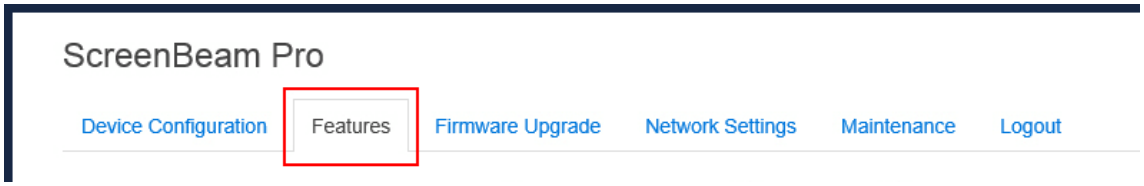
3. Click the **Apply** button, and then click **OK** on the pop-up message box to confirm.



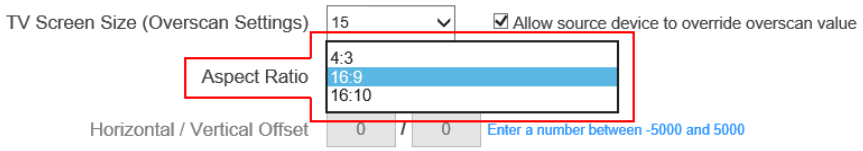
5.3.12. Setting up Output Aspect Ratio

If the output does not fit your display screen due to wrong aspect ratio, you can try selecting a proper aspect ratio for your display screen.
Follow the procedure below to adjust the aspect ratio for your TV screen:

1. Go to the **Features** tab page by clicking the **Features** tab.

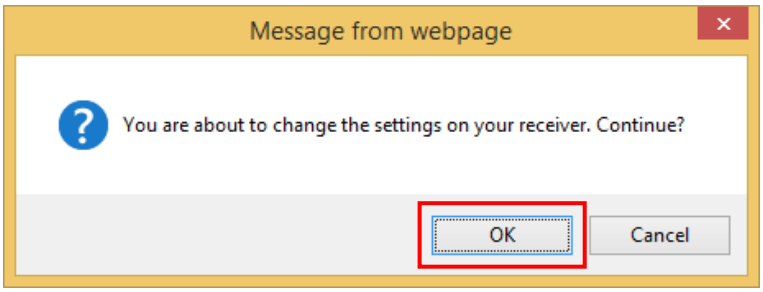


2. Go to the **Aspect Ratio** line, and select a proper option in the **Aspect Ratio** drop-down box.



In case of selecting the **4:3** option, you can also fine tune the horizontal and vertical offsets.

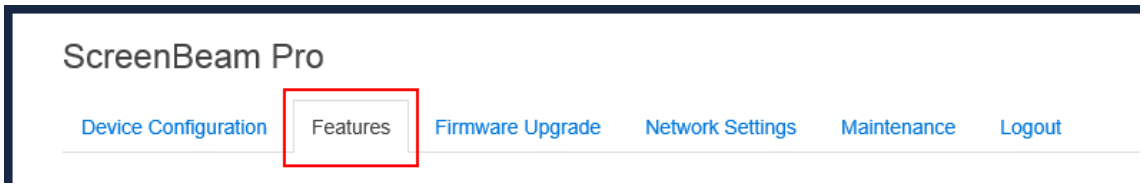
3. Click the **Apply** button, and then click **OK** on the pop-up message box to confirm.



5.3.13. Updating the Receiver's Background Image

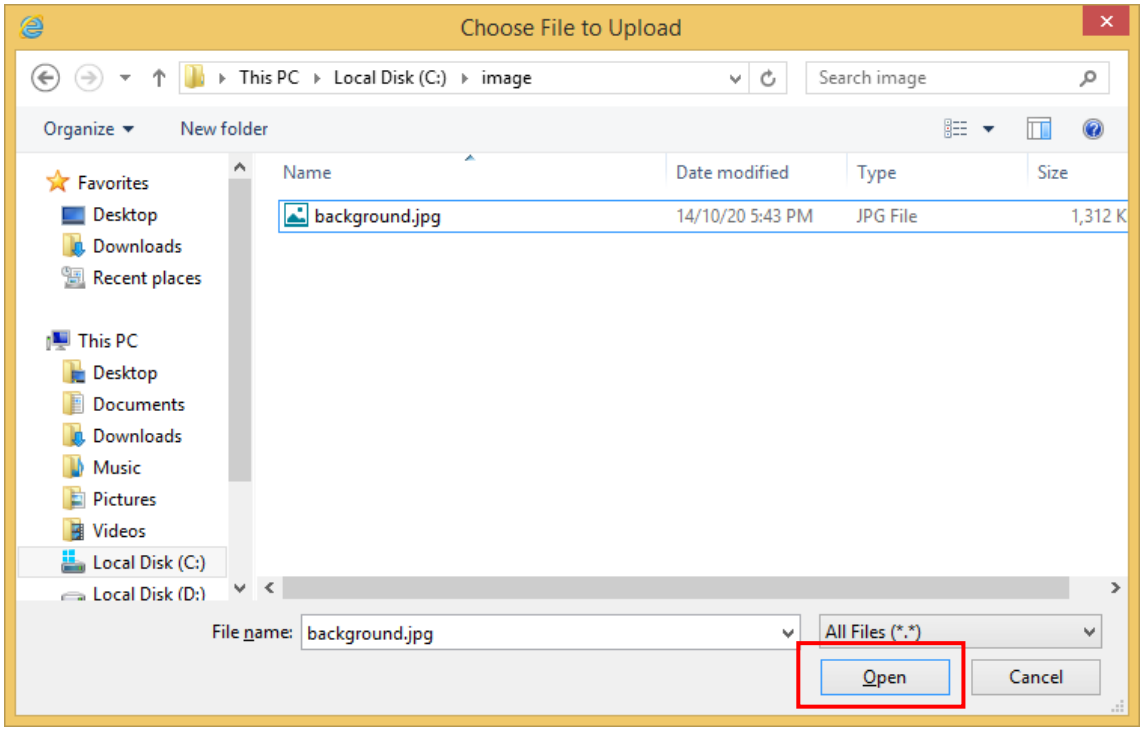
Follow the procedure below to update the receiver's background:

1. Go to the **Features** tab page by clicking the **Features** tab.



2. Go to the **Background Image** line, and click the **Browse** button next to the **Background Image** box.

3. The **Choose File to Upload** window appears. Select an image for the background and click the **Open** button to confirm.

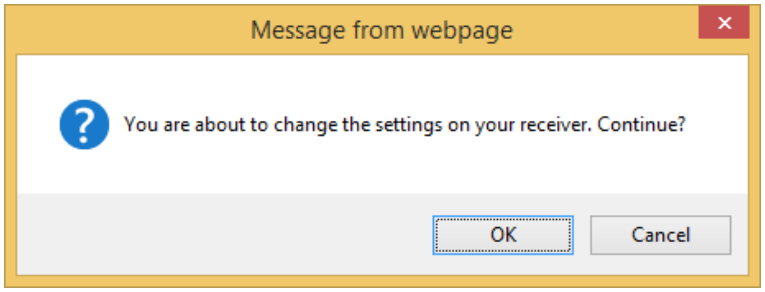


Note:

- The images must be in .png and .jpeg/.jpg formats.
- The file size must not exceed 2.5 MB.
- The best image size is 1280*720 pixels (width x height).

4. Click the **Apply** button to upload the background image to the receiver.

5. A confirmation message appears. Click **OK** to continue.

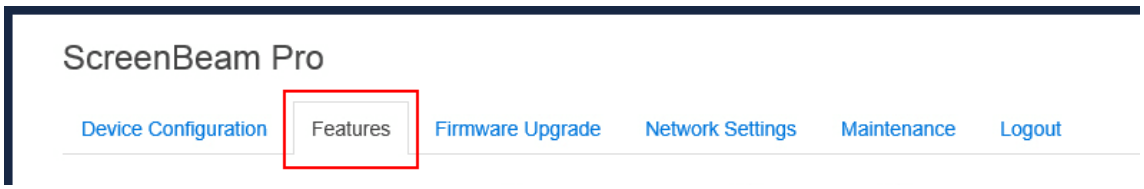


6. After a while, the background image will be updated. You can check it on the connected display.

5.3.14. Updating the Receiver's Screensaver Image

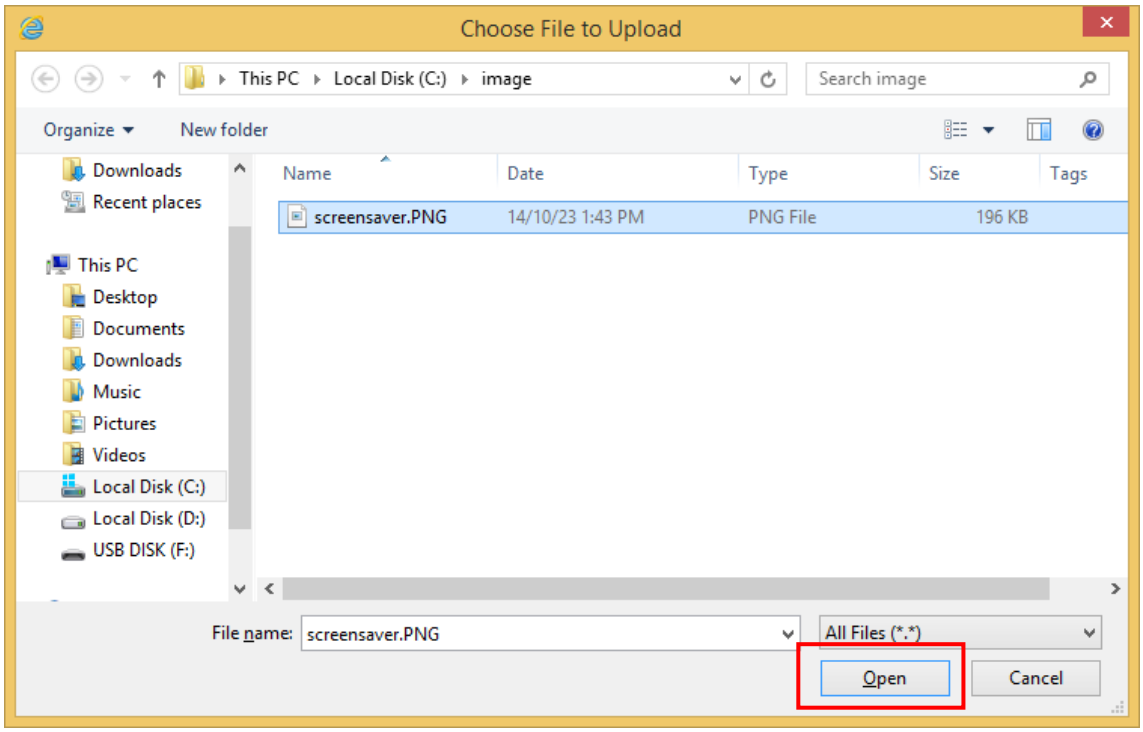
Follow the procedure below to update the receiver's screensaver image:

1. Go to the **Features** tab page by clicking the **Features** tab.



2. Go to the **Screen Saver Image** line, and click the **Browse** button next to the **Screen Saver Image** box.

3. The **Choose File to Upload** window appears. Select an image for the screensaver and click the **Open** button to confirm.

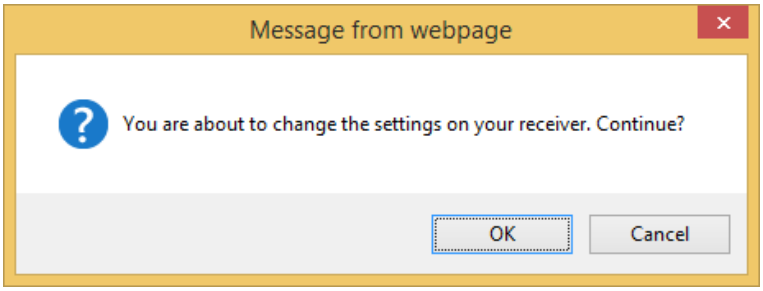


Note:

- The image must be in .png format.
- The file size must not exceed 200 KB.
- The best image size is 300*60 pixels.

4. Click the **Apply** button to upload the screensaver image to the receiver.

5. A confirmation message appears. Click **OK** to continue.

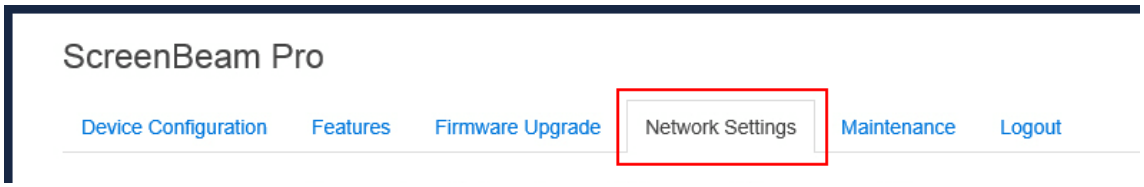


6. After a while, the screensaver image will be updated. You can check it on the connected display when the screensaver is running.

5.3.15. Setting up Network Information Display on TV Screen

Follow the procedure below to set up the receiver's network information display:

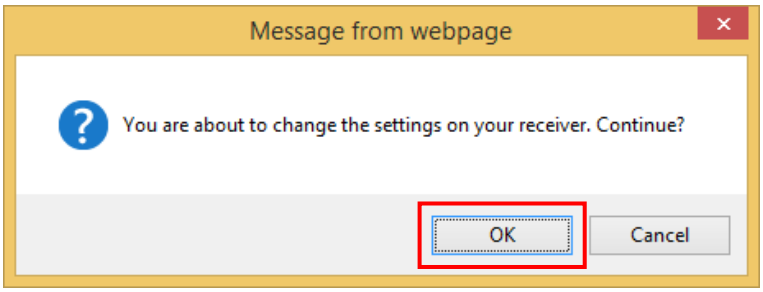
1. Go to the **Network Settings** tab page by clicking the **Network Settings** tab.



2. To enable/disable the **Show network information on TV screen** feature, go to the **Show network information on TV screen** line, and set the feature to **Enable** or **Disable**.

Note: By default, this feature is disabled, that is network information is not displayed.

3. Click the **Apply** button, and then click **OK** on the pop-up message box to confirm.



After the network information display is enabled, network information is shown on the TV screen.

5.3.16. Setting up Autonomous Group Owner (AGO)

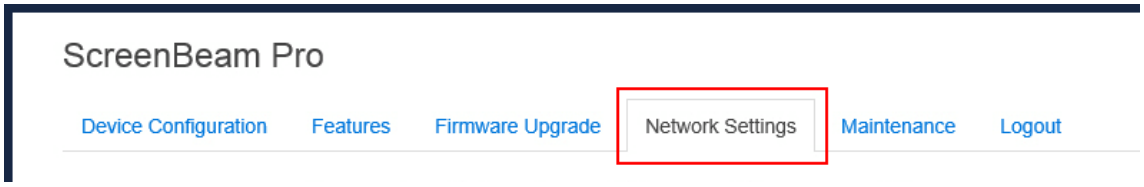
The Autonomous Group Owner function (enabled) allows the receiver to be the group owner during a p2p connection negotiation. In this case, the receiver can determine the channel for communication.

In a Wi-Fi P2P group, the group owner operates as an access point and all other devices are clients. After AGO is enabled, the receiver works as the P2P group owner.

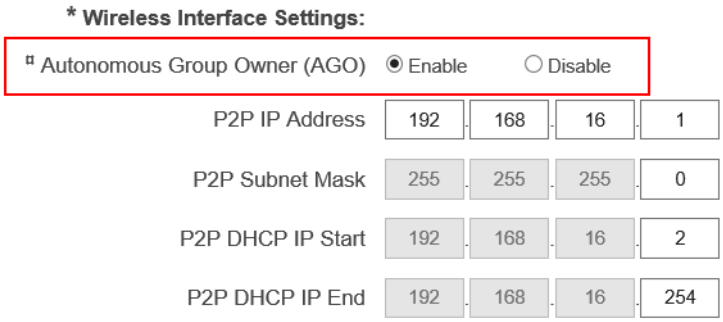
To use the Managed Meetings function, AGO must be enabled.

Follow the procedure below to set up AGO:

1. Go to the **Network Settings** tab page by clicking the **Network Settings** tab.



2. Set the **Autonomous Group Owner (AGO)** to Enable or Disable.


* Wireless Interface Settings:
Autonomous Group Owner (AGO)
Enable
Disable
P2P IP Address
192 . 168 . 16 . 1
P2P Subnet Mask
255 . 255 . 255 . 0
P2P DHCP IP Start
192 . 168 . 16 . 2
P2P DHCP IP End
192 . 168 . 16 . 254

There are two options: **Enable** and **Disable**.

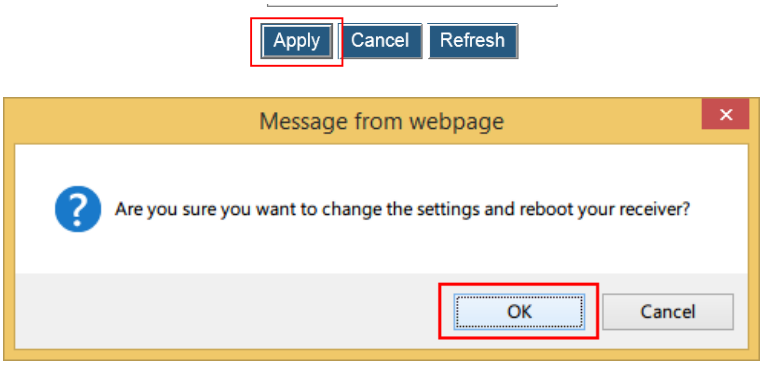
- **Enable**: The receiver will become the group owner of the session. The communication

channel can be defined by the receiver. And the Managed Meetings feature is available.

- **Disable**: The communication channel will be consistent with the source device, or be determined through negotiation between the receiver and the connecting device. And the Managed Meetings feature is note available.

Note: By default, AGO is enabled.

3. Click the **Apply** button, and then click **OK** on the pop-up message box to confirm.

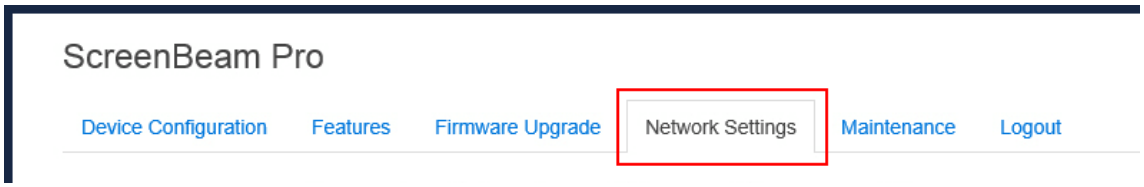


4. The receiver reboots, and new settings take effect after the reboot.

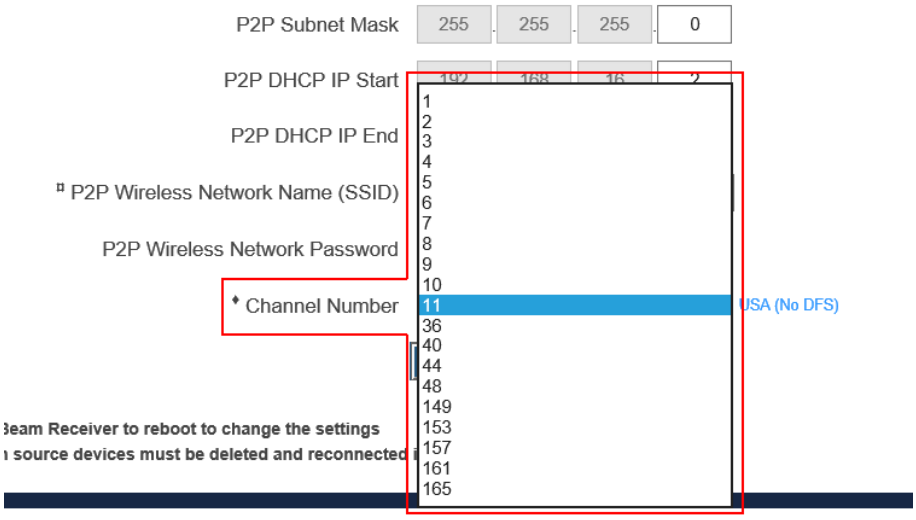
5.3.17. Setting up Communication Channel

When AGO is enabled, you can define a channel for communication between the wireless display receiver and the source device.

1. Go to the **Network Settings** tab page by clicking the **Network Settings** tab.



2. Select a desired channel from the **Channel Number** drop-down box.

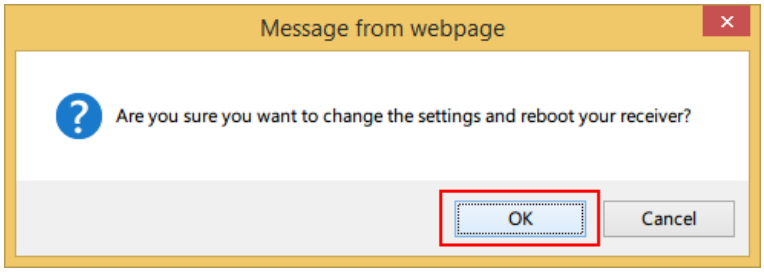


Channels from 1 to 11 belong to the 2.4 GHz band; and channels from 36 to 165 belong to the 5 GHz band.

You should select a channel based on your network environment. Generally, cleaner

channels (where less devices work) will provide better performance.
Wireless network analysis software, such as the Wi-Fi Analyzer, can help you identify a clean channel.

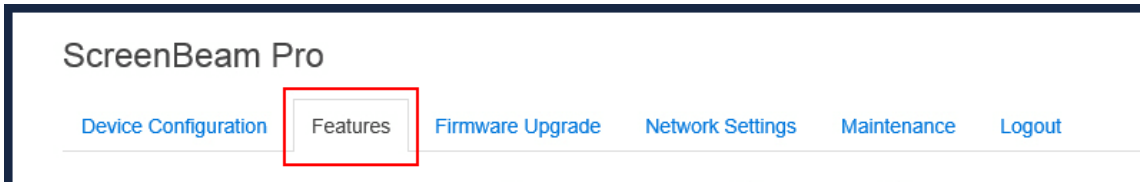
3. Click the **Apply** button, and then click **OK** on the pop-up message box to confirm.



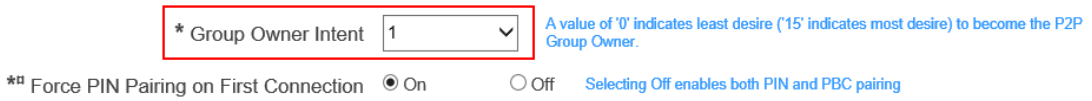
5.3.18. Setting up Group Owner Intent

When the AGO function is disabled, the **Group Owner Intent** function is available. The **Group Owner Intent** function is used to determine which device (receiver or connecting device) will be the group owner.

1. Go to the **Features** tab page by clicking the **Features** tab.

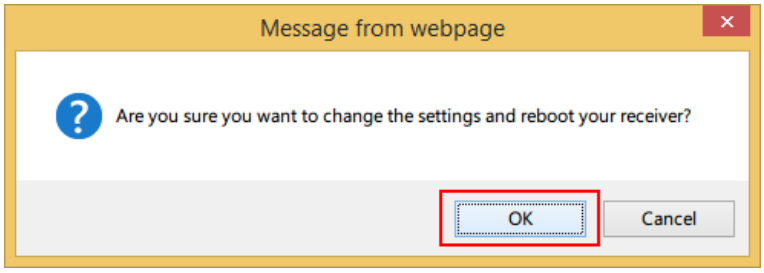


2. Select a desired value from the **Group Owner Intent** drop-down box.


* Group Owner Intent
1
A value of '0' indicates least desire ('15' indicates most desire) to become the P2P Group Owner.
*¤ Force PIN Pairing on First Connection
On
Off
Selecting Off enables both PIN and PBC pairing

Note: The larger the value is, the more likely the receiver becomes the group owner of the P2P connection.

3. Click the **Apply** button, and then click **OK** on the pop-up message box to confirm.



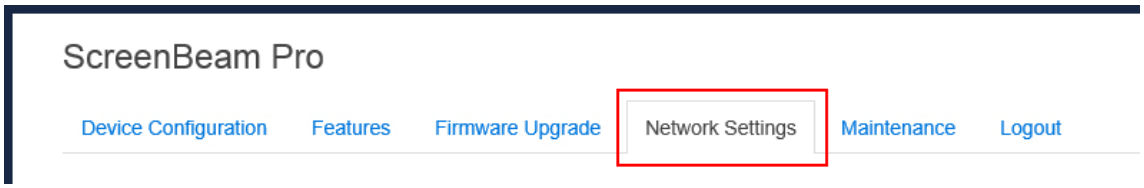
4. The receiver reboots, and new settings take effect after the reboot.

5.3.19. Setting up P2P Network Parameters

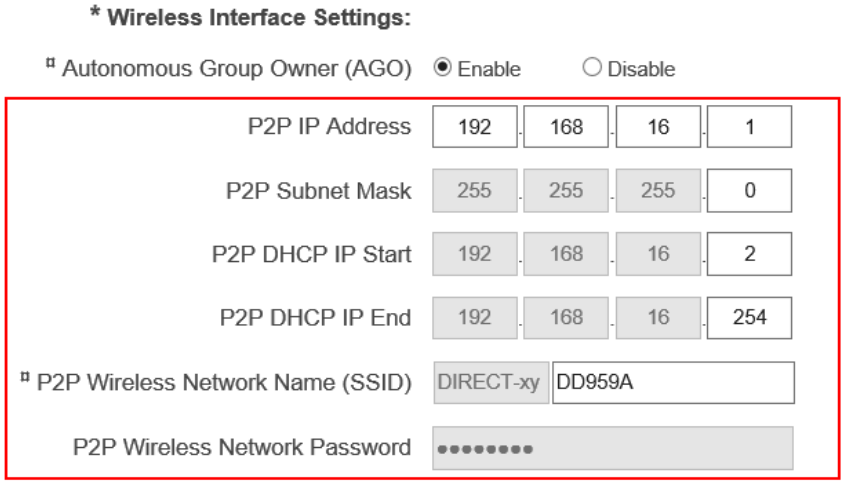
When AGO is enabled, you can define network parameters for the peer to peer connection, including P2P Wireless Network Name (SSID), Password, IP address, subnet mask, DHCP IP address range.

You should configure these parameters when you use the Managed Meetings function. When source devices connect to the receiver, the receiver will assign IP addresses to these devices. And these IP addresses are defined by the parameters discussed in this section.

1. Go to the **Network Settings** tab page by clicking the **Network Settings** tab.



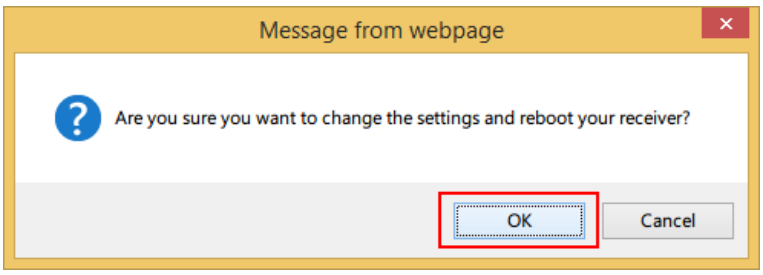
2. Go to the **Wireless Interface Settings** section, and properly configure the network parameters.



- **P2P Wireless Network Name (SSID)** and **P2P Wireless Network Password**: Reserved.
- **P2P IP Address**: It is the IP address of the receiver in a peer to peer connection. This IP address is displayed in the bottom left corner of the **Ready to connect** screen. It is used to access the local management server when AGO is enabled.
  Note: The P2P IP Address must not be in the range defined by **P2P DHCP IP Start** and **P2P DHCP IP End**.
- **P2P Subnet Mask**: It is the subnet mask for the network established in the peer to peer connection.
- **P2P DHCP IP Start** and **P2P DHCP IP End**: These two items define the range of IP addresses assigned to the connected devices.

Note: These network parameters works when AGO is enabled.

3. Click the **Apply** button, and then click **OK** on the pop-up message box to confirm.

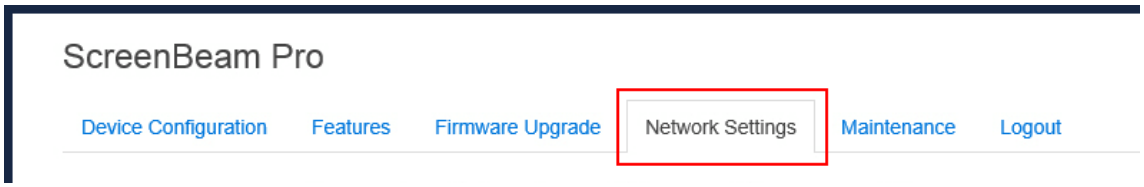


4. The receiver reboots, and new settings take effect after the reboot.

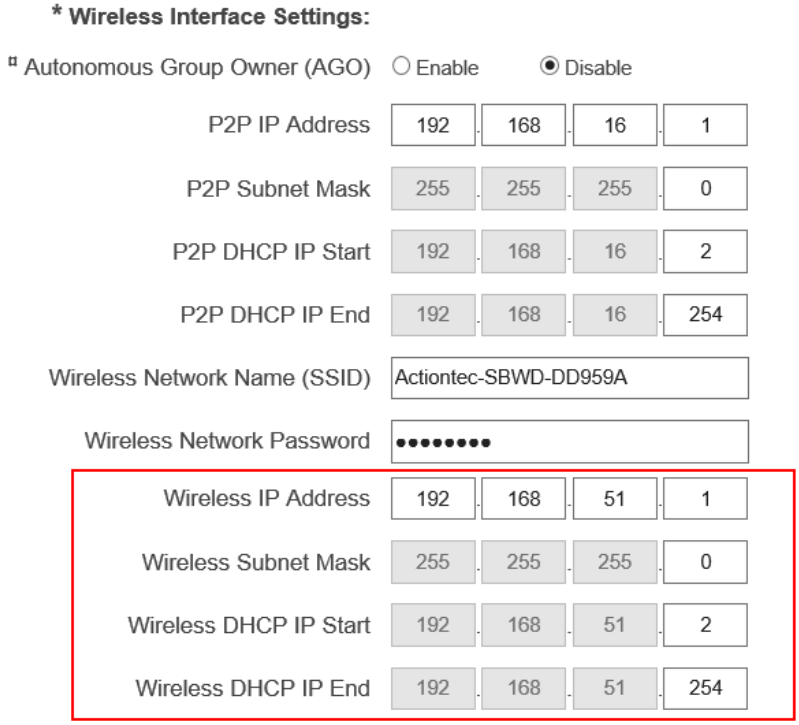
5.3.20. Setting up Wireless Network Parameters

When AGO is disabled, you can define wireless network parameters for accessing the receiver's local management web server, including wireless network name (SSID) and password, IP address, subnet mask, and DHCP IP address range.

1. Go to the **Network Settings** tab page by clicking the **Network Settings** tab.



2. Go to the **Wireless Interface Settings** section, and properly configure the network parameters.


* Wireless Interface Settings:
Autonomous Group Owner (AGO)
Enable
Disable
P2P IP Address
192 . 168 . 16 . 1
P2P Subnet Mask
255 . 255 . 255 . 0
P2P DHCP IP Start
192 . 168 . 16 . 2
P2P DHCP IP End
192 . 168 . 16 . 254
Wireless Network Name (SSID)
Actiontec-SBWD-DD959A
Wireless Network Password
••••••••
Wireless IP Address
192 . 168 . 51 . 1
Wireless Subnet Mask
255 . 255 . 255 . 0
Wireless DHCP IP Start
192 . 168 . 51 . 2
Wireless DHCP IP End
192 . 168 . 51 . 254

- **Wireless Network Name (SSID)** and **Wireless Network Password**: The SSID and password for accessing the receiver's wireless network. The SSID is displayed when AGO is disabled.
- **Wireless IP Address**: It is the IP address of the local management web server. This IP

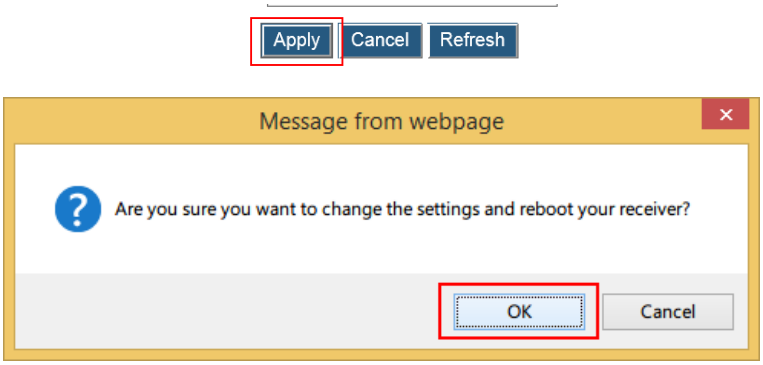
address is displayed in the lower part of the **Ready to connect** screen. It is used to access the local management server when AGO is disabled.

Note: The Wireless IP Address must not be in the range defined by **Wireless DHCP IP Start** and **Wireless DHCP IP End**.

- **Wireless Subnet Mask**: It is the subnet mask of receiver's network.
- **Wireless DHCP IP Start** and **Wireless DHCP IP End**: These two items define the range of IP addresses assigned to the connected devices.

Note: These network parameters works when AGO is disabled.

3. Click the **Apply** button, and then click **OK** on the pop-up message box to confirm.

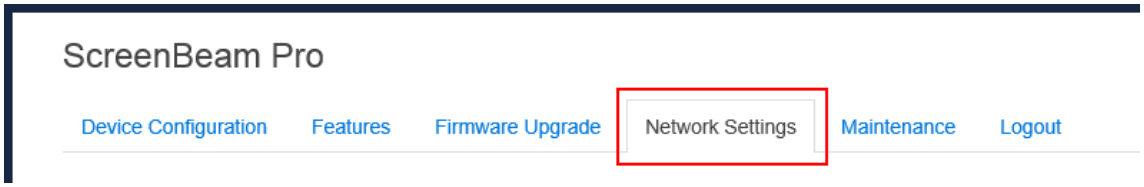


4. The receiver reboots, and new settings take effect after the reboot.

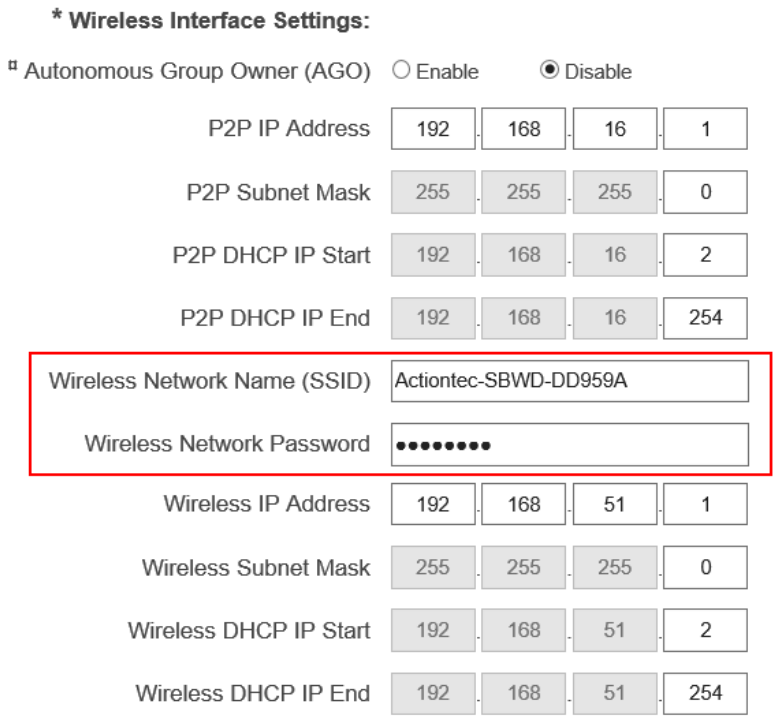
5.3.21. Modifying the Receiver's Wireless Network Name (SSID)

When AGO is disabled, you can modify the receiver's wireless network name (SSID). Follow the procedure below to modify the receiver's SSID:

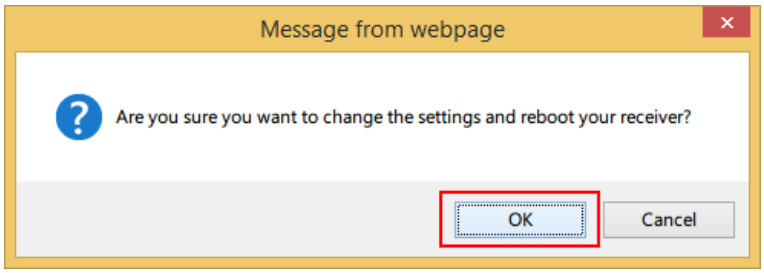
1. Go to the **Network Settings** tab page by clicking the **Network Settings** tab.



2. Go to the **Wireless Network Name (SSID)** and **Wireless Network Password** section, and type a new name in the **Wireless Network Name (SSID)** box and a new password in **Wireless Network Password** box.


* Wireless Interface Settings:
Autonomous Group Owner (AGO)
Enable
Disable
P2P IP Address
192 . 168 . 16 . 1
P2P Subnet Mask
255 . 255 . 255 . 0
P2P DHCP IP Start
192 . 168 . 16 . 2
P2P DHCP IP End
192 . 168 . 16 . 254
Wireless Network Name (SSID)
Actiontec-SBWD-DD959A
Wireless Network Password
••••••••
Wireless IP Address
192 . 168 . 51 . 1
Wireless Subnet Mask
255 . 255 . 255 . 0
Wireless DHCP IP Start
192 . 168 . 51 . 2
Wireless DHCP IP End
192 . 168 . 51 . 254

3. Click the **Apply** button, and then click **OK** on the pop-up message box to confirm.

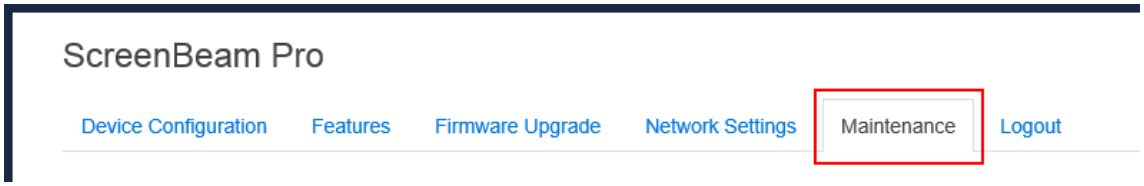


4. The receiver reboots, and the new SSID takes effect after the reboot.

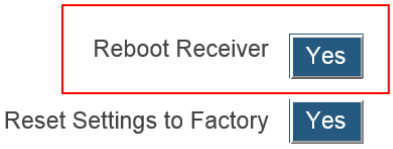
5.3.22. Rebooting the Receiver

Follow the procedure below to reboot the receiver:

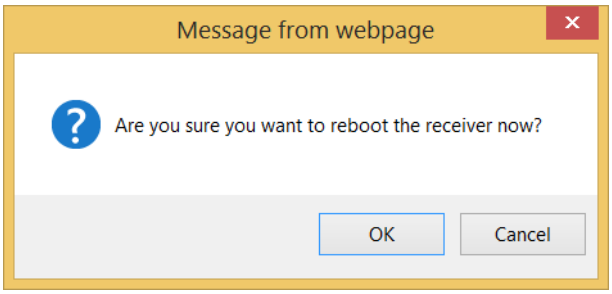
1. Go to the **Maintenance** tab page by clicking the **Maintenance** tab.



2. Click the **Yes** button next to "**Reboot Receiver**".



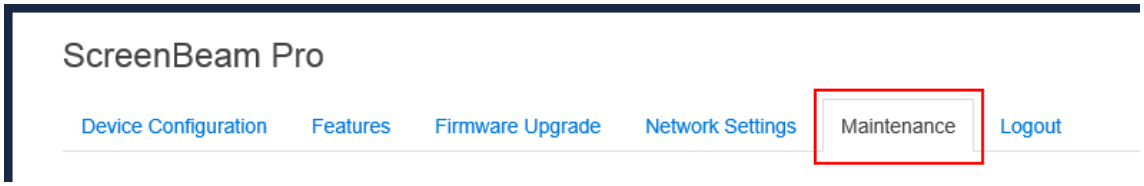
3. Click **OK** on the pop-up message box to confirm.



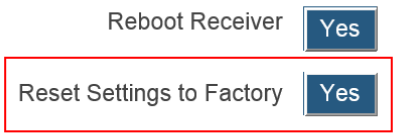
5.3.23. Resetting the Receiver to Default

Follow the procedure below to reset the receiver to the default settings:

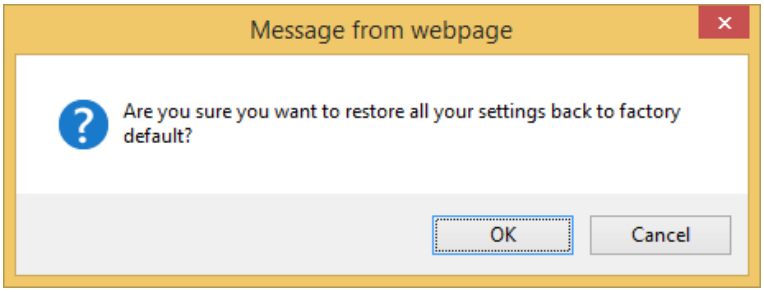
1. Go to the **Maintenance** tab page by clicking the **Maintenance** tab.



2. Click the **Yes** button next to "**Reset Settings to Factory**".



3. Click **OK** on the pop-up message box to confirm.



4. The receiver reboots, and the receiver is reset to factory defaults after the reboot.

Note: You can also reset your receiver to default by pressing the "**Reset**" button. Follow the procedure below to restore the Receiver's default factory settings:

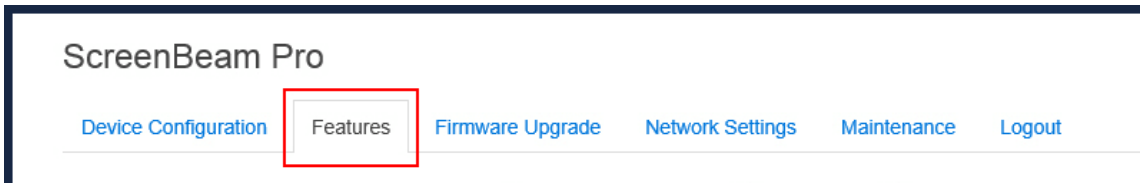
1. Power on the Receiver, and wait until the "**Ready to connect**" screen appears.
2. Hold down the Receiver's "**Reset**" button with a pin.
3. When the "**Reset to Default**" screen appears on the HDTV, release the "**Reset**" button.

The Receiver reboots, and it will be running with its default settings.

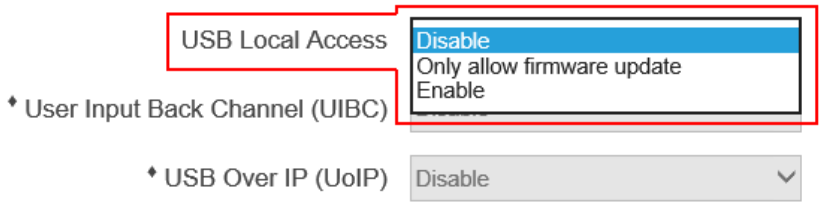
5.4. Upgrading the Receiver

ScreenBeam Pro supports firmware upgrade. And Actiontec's ScreenBeam team will constantly improve the receiver's performance with new firmware.
Follow the procedure below to upgrade your receiver:

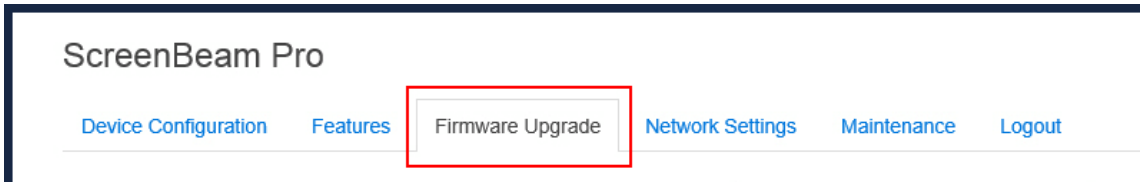
1. Log into ScreenBeam Pro's web server, and go to the **Features** tab page by clicking the **Features** tab.



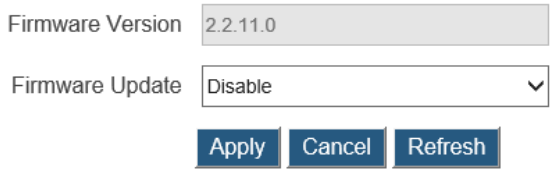
2. Set the **USB Local Access** feature to **Only allow firmware update**, or **Enable**.



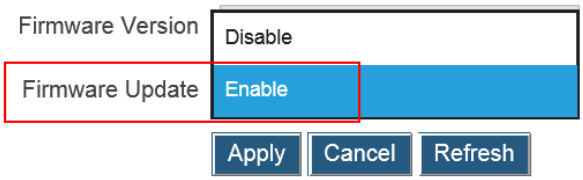
3. Go to the **Firmware Upgrade** tab page by clicking the **Firmware Upgrade** tab.



4. On the **Firmware Upgrade** tab page, you can check the current firmware version in the **Firmware Version** section and upgrade the receiver.



5. Select **Enable** in the **Firmware Update** box.



6. Download the latest firmware from Actiontec's website: http://www.actiontec.com/sbupdate.
   Note: You should disconnect from the receiver's SSID and connect to a router's SSID

before downloading firmware.

7. Extract the zip file. You will find one "autorun" folder and one "install.img" file in the extracted file folder.
8. Insert a USB flash drive to your laptop/PC.
9. Copy the "autorun" folder and the "install.img" file to the root directory of the USB flash drive.

   Note: Do not use a portable hard drive. You should use a FAT/FAT32 formatted USB flash drive only.
10. Power on your Receiver. Make sure the "**Ready To connect**" screen appears on your TV.

    Note: You must disconnect your device (laptop, ultrabook, smartphone or tablet) from the receiver before upgrading your receiver.
11. Safely remove your USB flash drive from your PC, and plug it into the USB port of ScreenBeam Pro.
12. The Receiver starts to update its firmware automatically. Firmware upgrade status messages appear on your TV.

    Warning! Do not power off the Receiver or remove the USB flash drive while the upgrade is in progress. Otherwise, firmware upgrade fails.
13. The Receiver reboots. Firmware upgrade completes after the "**Ready to connect**" screen appears again.
14. Upgrade completes. You may now remove the USB flash drive from the Receiver.